Enterprise Human Resources Integration
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Workforce Analysis Support System (WASS+)
Version 3.5
User's Manual

Version 2.0

December 2003

Managing Partner

DRAFT

In coordination with our partners:

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Revision Sheet

Release No.	Date	Revision Description
Rev. 1.0	August 2003	Creation of the WASS+ Manual
Rev. 2.0	December 2003	Update WASS+ Manual to reflect all functionality

The Workforce Analysis Support System (WASS+)

The Office of Personnel Management (OPM) has adapted the Workforce Analysis Support System Plus (WASS+), a system developed by the Department of the Army and AT&T Government Solutions of Vienna, Virginia, for use in analyzing historical data from the Central Personnel Data File (CPDF). The historical data tables contain CPDF data back to March 1994. WASS+ provides users the capability to construct simple queries and to conduct statistical analyses, as well as to manipulate data by merging populations, creating longitudinal data tables for specific time periods and running queries or analyses on the data tables that have been created.

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List of Acronyms

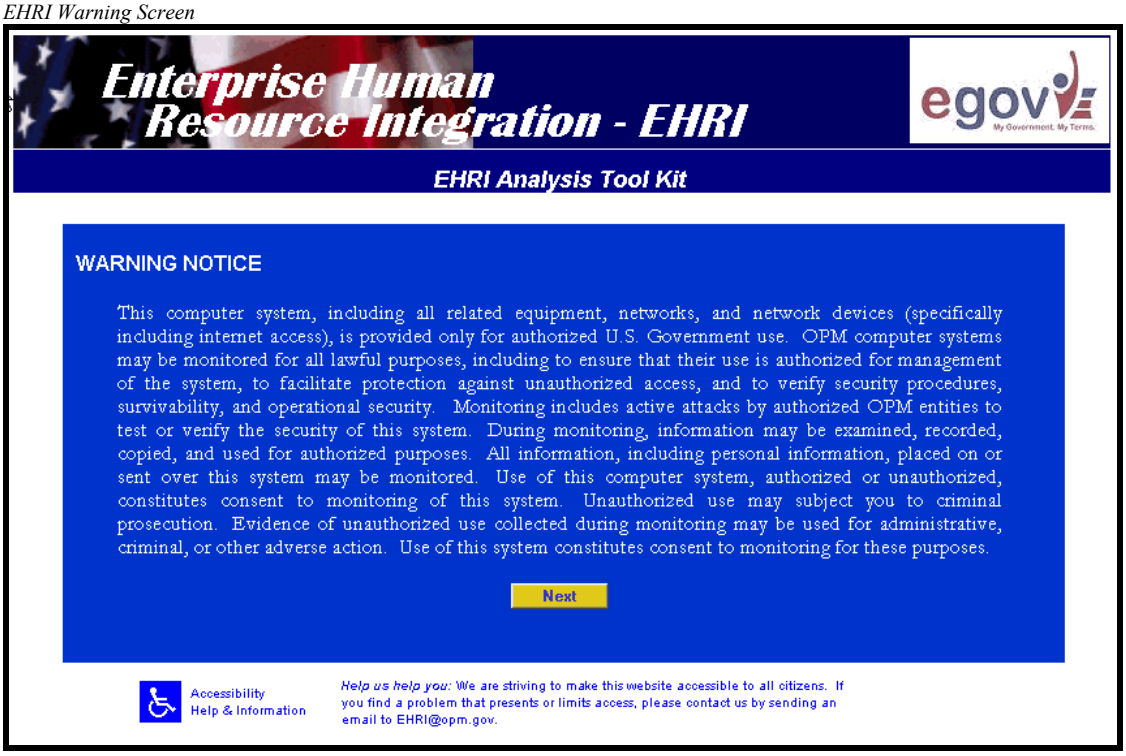
ANOVA	Analysis of Variance
COLA	Cost of Living Adjustment
CPDF	Central Processing Data File
EHRI	Enterprise Human Resources Integration
NOA	Nature of Action Code
OPM	Office of Personnel Management
SAS	Statistical Analysis System
SSN	Social Security Number
WASS+	Workforce Analysis Support System

SECTION 1.0 WASS+

To access the Workforce Analysis Support System (WASS+) applications via the Web, place the following address ***http://128.190.159.219/Wass3/EHRI-Page1.jsp*** in the browser address field.

1.1 EHRI Warning Screen

EHRI Warning Screen

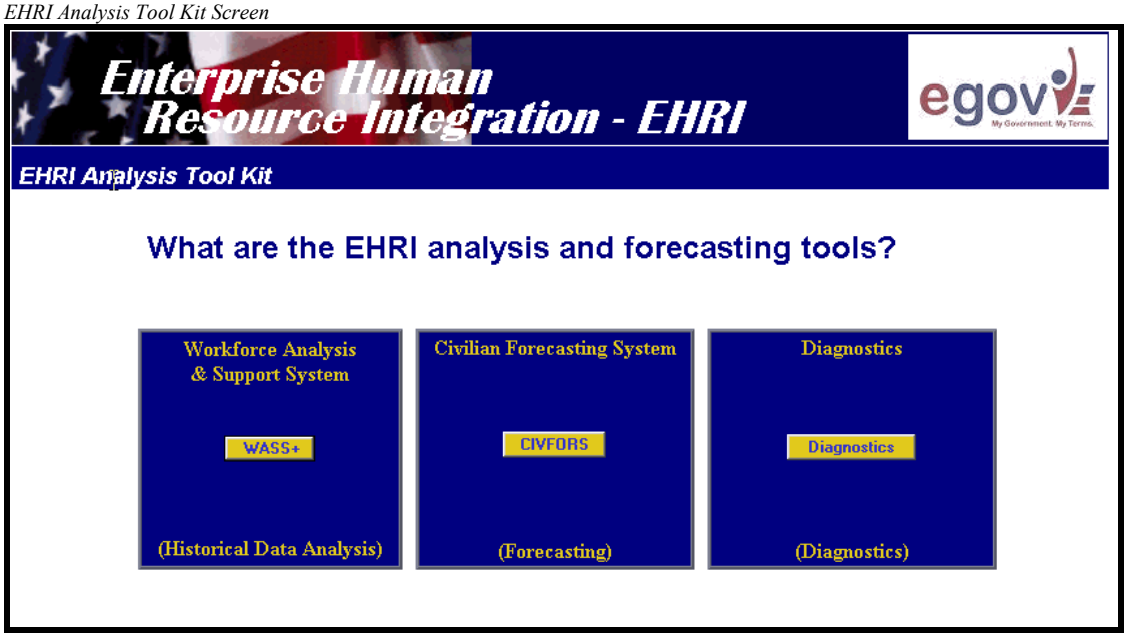


The *Enterprise Human Resources Integration (EHRI) Warning* screen will appear.

Click ***Next.***

1.2 EHRI Analysis and Forecasting Tools

EHRI Analysis Tool Kit Screen

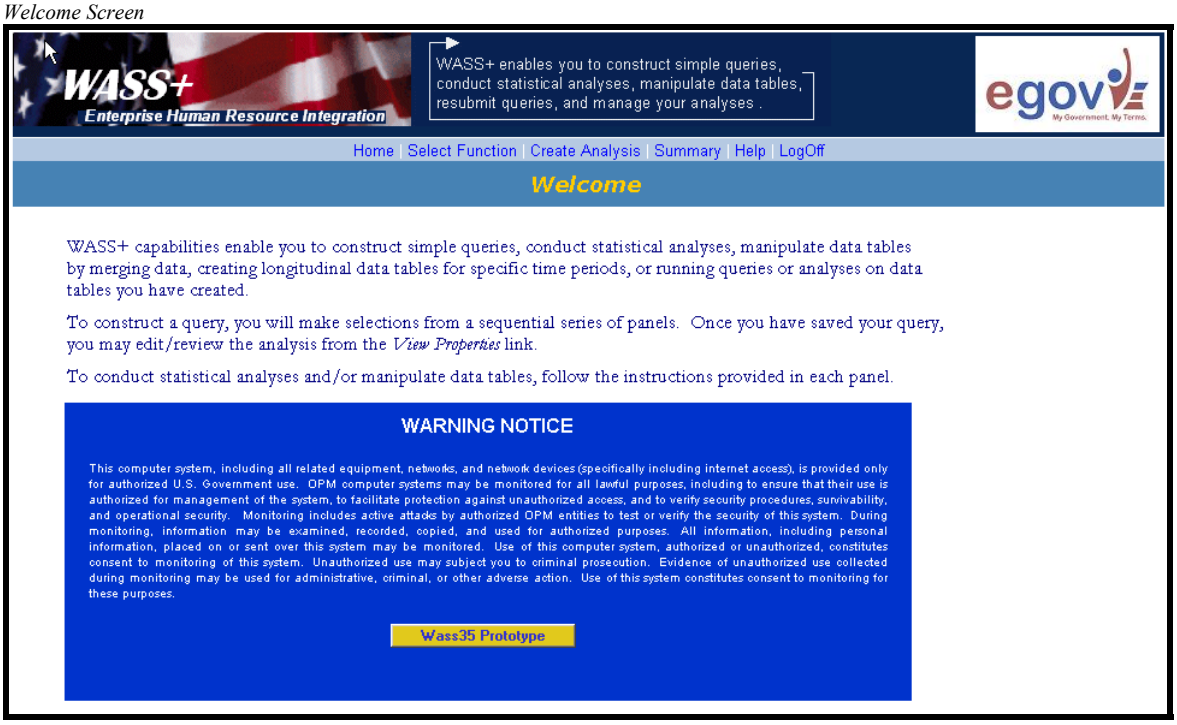


The *EHRI Analysis Tool Kit* screen appears with icons leading to the available EHRI analysis and forecasting tools.

Click the ***WASS+*** button.

1.3 Entering WASS+

Welcome Screen



The next screen to appear is the *Welcome* screen.

To enter WASS+,

- Click on ***Wass35 Prototype***.

1.4 Login to WASS+

Login to WASS+ Screen

The *Login to WASS*+ screen appears.

Login Screen

Login Steps
To login to WASS+:

1) Enter your WASS+ User Name and Password in the *User Name* and *Password* fields.
2) Click ***Login***.

Reset
To clear all data, click ***Reset***.

User Access
Individuals must be authorized by the Office of Personnel Management (OPM) or their employing agency to use WASS+. Authorized individuals will be assigned a User Name and Password to enter the system.

Login Support
If you are unable to login, check your User Name and Password carefully. Both User Name and Password are case sensitive (i.e., each character must be correctly typed in the same case as it was originally).

If you still are unable to login, use the information below to contact your System Administrator.

Technical Support Team - TBD

1.5 System Requirements

The following system requirements are necessary for access to the WASS+ system.

Internet Explorer
Users must have access to **Internet Explorer (IE) 5.5** or greater for WASS+.

Computer Screen Adjustments
Please make sure you adjust your screen to the correct resolution so that you are able to view the whole application with very little need for scrolling. Each computer is different, so you may have to make some adjustments. It may be helpful to hide your bottom and top browser bars before you begin.

Navigation
Please use the application navigation buttons only instead of the browser buttons as you move between screens. For example, DO NOT just 'x' out of the browser when you are finished – instead, click the ***Log Off*** section on the top bar of the application.

System Access Problems
It is recommended that you first contact your system administrator to resolve system access problems. If problems persist, please use the information below to contact the appropriate person.

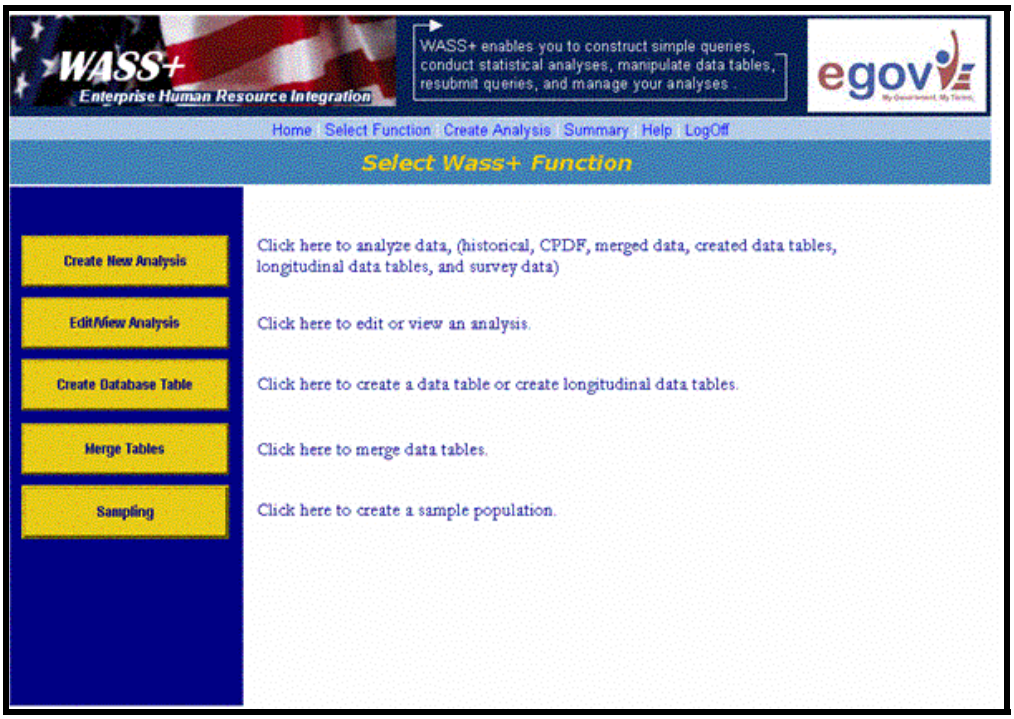
System Support Team - TBD

User System Survey

All first time users are required to complete a survey for documentation of their experiences with the system. Users must complete this survey by the fifth use of the system. Any system comments and/or recommendations upon completion of the survey should be forwarded to Dr. Engin Crosby at Engin.Crosby@asamra.hoffman.army.mil.

SECTION 2.0 WASS+ Function Overview

Select WASS+ Function Screen



The next screen to appear is the *Select WASS+ Function* screen, which is used to select a primary WASS+ function to be executed. To continue with WASS+, you must make a selection from the *Select a WASS+ Function* screen. You may select only one function at a time. Use the *Select WASS+ Function* screen to select the WASS+ function you want to execute by clicking the option button on the left side of the screen.

2.1 Create New Analysis

Create New Analysis allows you to construct new analytic queries to obtain data that you specify from the quarterly CPDF data, previously created data tables, existing longitudinal data tables, or existing data tables containing survey data.

2.2 Edit/View Analysis

Edit/View Analysis allows you to retrieve and review analytic queries that were previously submitted and/or that were made public by you or other WASS+ users. An analytic query may be edited for resubmission. The edit function is usually quicker than developing a new query for data if you plan to change only one or a few specifications from a previous query. For example, you previously queried for average Age of the Federal workforce and you now want to query for average Years of Service of the Federal workforce.

2.3 Create Database Table

Create Database Table allows you to save data on a population group in a permanent SAS dataset so that they can analyze that population at a later time or perform multiple analytic queries against that population. This function is currently under construction.

2.4 Merge Tables

Merge Tables allows you to combine data from different time periods so that they can add elements to a population from external data, etc. You may also use this function to create new tables of data from a survey or another information source such as the Bureau of Labor Statistics. This function will also allow you to create a longitudinal view of the data for conducting longitudinal analyses by combining tables from different time periods in order to examine the activities or status of a given cohort over time. For example, you can examine a previous accession cohort (e.g., persons who entered the workforce prior to 1995) and analyze their current characteristics (e.g., their current Pay Grade distribution or number of promotions among the group since 1995).

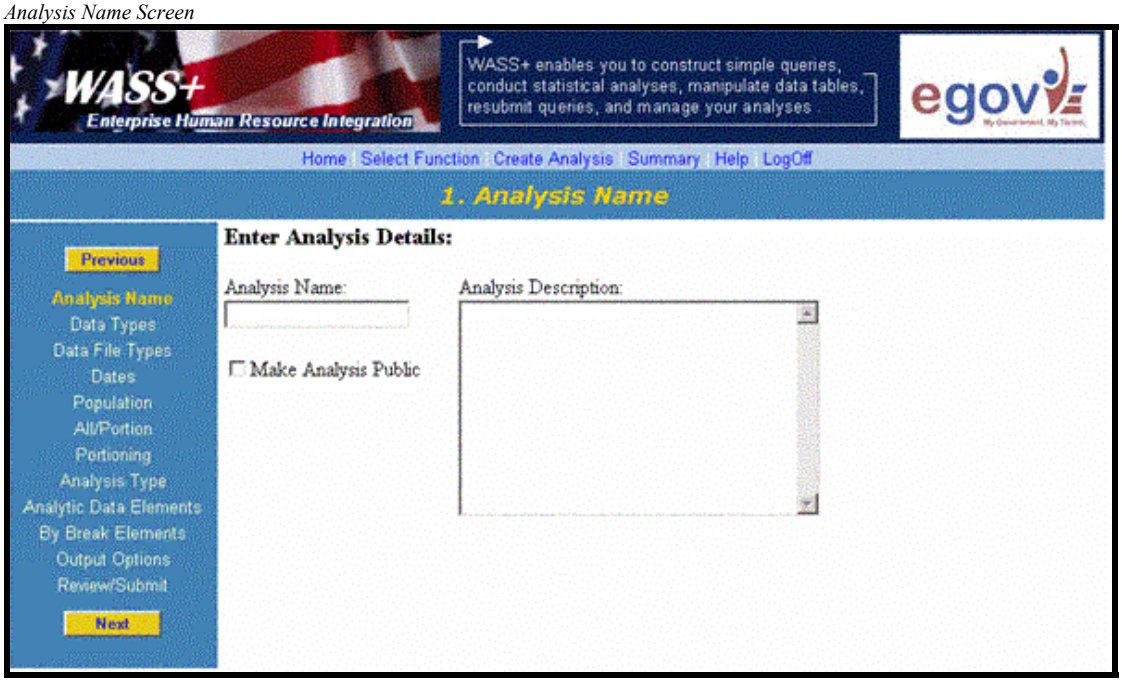
2.5 Sampling

Sampling allows you to conduct an analysis on a sample (representative or other sampling option) of the workforce that is randomly drawn from the database by WASS+. This is currently unavailable.

SECTION 3.0 Create New Analysis

3.1 Analysis Name

Analysis Name Screen



Create New Analysis allows you to construct a new analytic query to obtain data that is specified from the quarterly CPDF data, previously created data tables, existing longitudinal data tables, or existing data tables containing survey data.

If you chose to *Create a New Analysis*, the first screen to appear is the *Analysis Name* screen. This screen enables you to enter the following information:

- Analysis Name (required)
- Analysis Description (optional)
- Make Analysis Public (optional)

Analysis Name

The *Analysis Name* field identifies the collection of user-defined SAS parameters and selections that define a particular analytic query. It is a required entry (i.e., in order to continue processing, you must define a analysis name), and it must be unique (i.e., if the table is private, you may not have another private table of that name, and if the table is public, there may not be another public table of that name). It may contain any valid alphanumeric character (plus a space or an underscore) and must be no longer than 30 characters in length. All analysis names are defaulted to uppercase.

Analysis Description

The *Analysis Description* field is an optional entry that enables you to further describe the characteristics of your analysis. There are no limitations on the character set or case that you use (with the exception that you cannot use either a single or double quote), and the length can extend up to 132 characters.

Make Analysis Public

All analyses are automatically made 'private' upon creation. This means that only you have the ability to view the analysis and analysis results. You may make your analysis public by clicking the *Make Analysis Public* checkbox. When an analysis has been made public, all WASS+ users have the capability to view the analysis and analysis results.

Menu Instructions

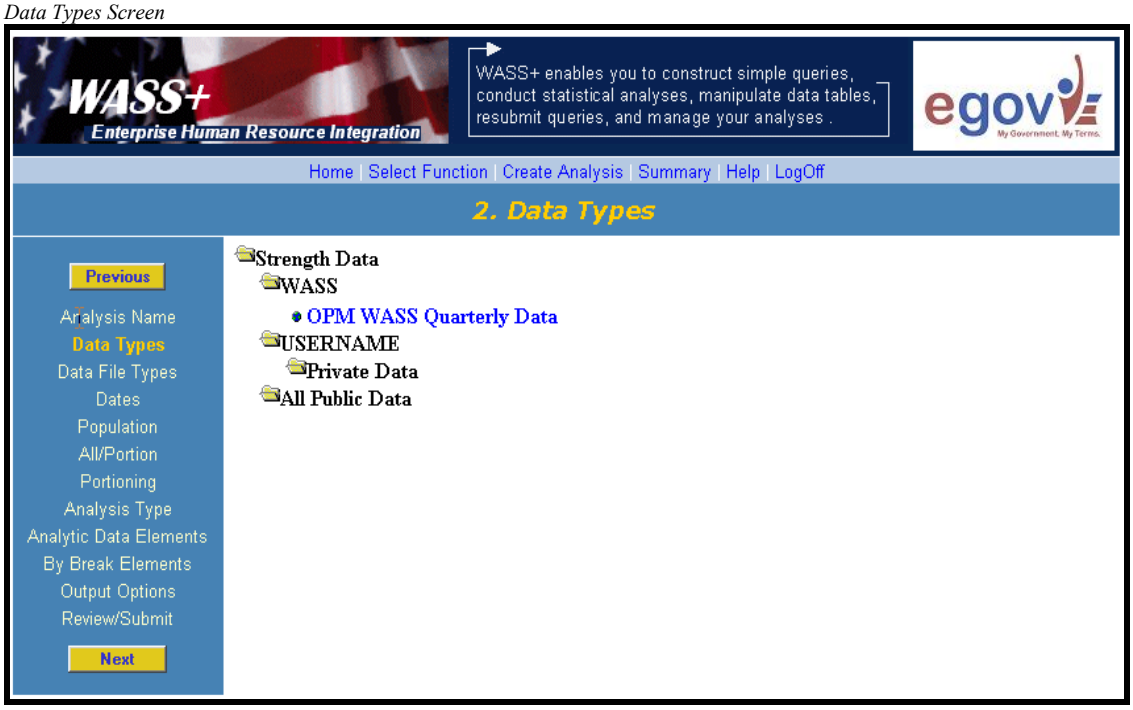
Click ***Previous***. The *Select WASS+ Function* screen appears.

Click ***Next***. The *Data Types* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.2 Data Types

Data Types Screen



The next screen to appear is the *Data Types* screen. The *Data Types* screen contains the types of data that are accessible through the system for your analysis. The following data types are available:

- **WASS** – The WASS folder contains *OPM WASS Quarterly Data*. The source of this data is CPDF data feeds from 1994 through the present day.

- **Private Folder** -- The private folder may contain data if you have created tables.

- **All Public Data** – This folder contains data sources that were made public when the tables were created.

(Note that the usage of the public data is defined by the agency. Business rules will establish who has the ability to make data types public.)

Menu Instructions

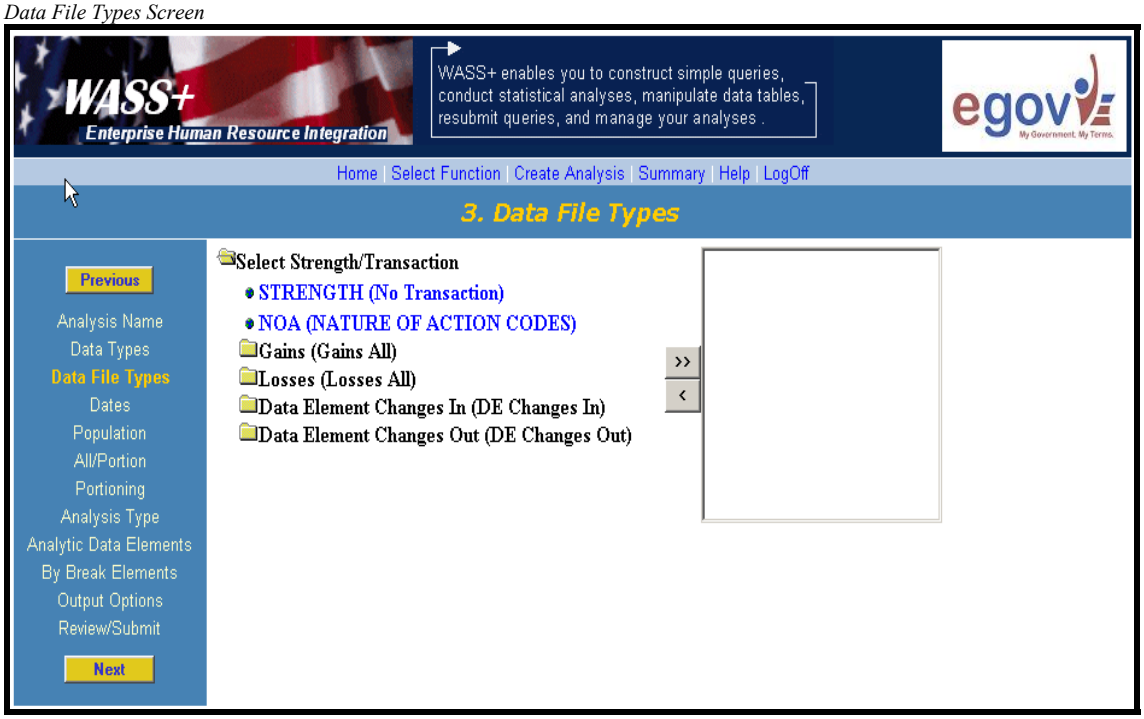
Click ***Previous.*** The *Analysis Name* screen appears.

Click ***Next***. The *Data File Types* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.3 Data File Types

Data File Types Screen



The next screen to appear is the *Data File Types* screen. This screen provides the folders for the available Data File Types:

- Strength
- NOA (Nature of Action Codes)
- Gains
- Losses
- Data Element Changes In

- Data Element Changes Out

3.3.1 Strength

Strength tables collectively contain historical quarter-end snapshots of the workforce. Not all data elements in the system may be available for the entire time horizon. For a complete list of the strength elements that are available in the system and the dates these elements are available, *see Appendix A: WASS+ Data Element Descriptions and Availability.*

As in almost all strength-based systems, data values that can be extracted from WASS+ strength tables represent workforce information "as of" a particular point in time (i.e., at the end of a given quarter). For example, strength records that are tagged to the quarter 1998 09 data represent a snapshot of the state of the workforce "as of" the end of that quarter.

Since records are keyed by SSN and data points represent snapshots, all records for a particular point in time are unique (i.e., only one record for any given person exists for any given quarter).

Menu Instructions

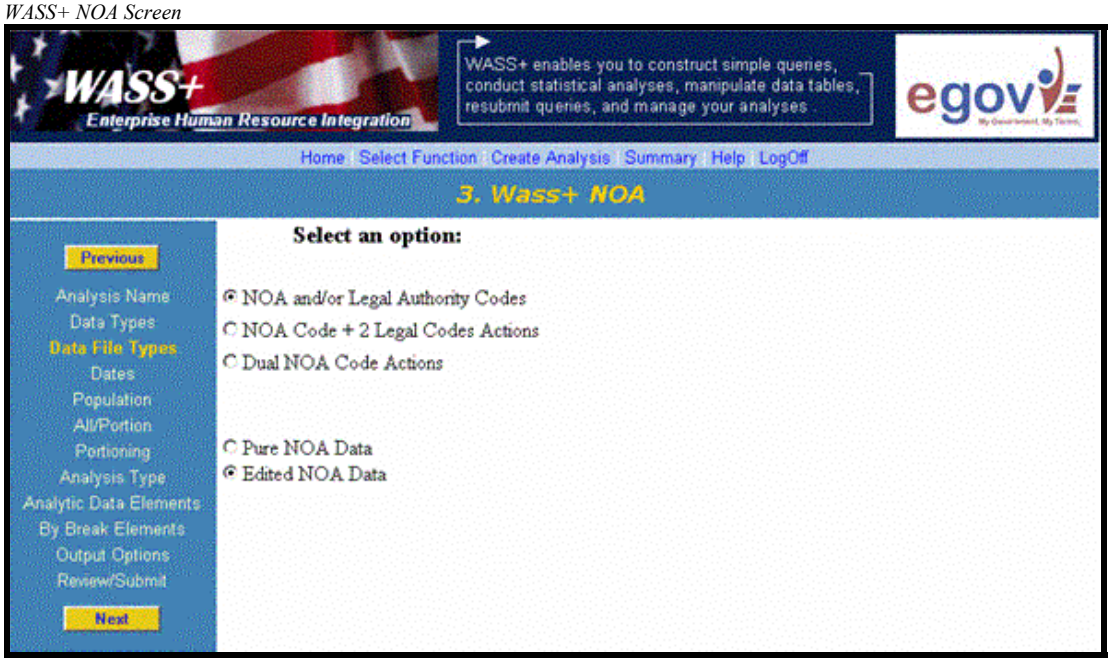
Click ***Previous.*** The *Data Types* screen appears.

Click ***Next***. The *Dates* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.3.2 NOA

WASS+ NOA Screen



If you selected *NOA (Nature of Action Codes)* from the *Data File Types* screen, the next screen to appear is *WASS+ NOA* screen.

The Nature of Action (NOA) table contains historical NOA transactions that have been submitted for individuals in the Federal Government Civilian workforce. This information is useful if you want to analyze data for a population group that has experienced a specific personnel action (e.g., Nature of Action Code 888, 'Denial of Within Grade Increase').

As in almost all transaction-based systems, data that can be extracted from the WASS+ NOA table represents events or actions that occurred over a given period of time (i.e., over a given quarter). For example, NOA transactions that are tagged to the quarter 1998 09 data represent transactions that occurred *during* the quarter from July 1, 1998 through September 30, 1998.

Like Strength records, NOA transactions are keyed by SSN, but because an individual may experience multiple personnel transactions *during* any given quarter, not all records are necessarily unique (i.e., more than one record for a given person can exist for a given date).

The *WASS+ NOA* screen allows you to further define your population group by NOA and Legal Authority Codes and how you want to view NOA data (using either the pure or edited form). You may choose to view all NOA records (with or without matching SSNs) in WASS+ Strength tables (pure), or you may choose to view NOA records that are ALSO found in WASS+ Strength tables (edited).

Use the *WASS+ NOA* screen to make two decisions:

1) Select one of the following three options by clicking the option button to the left of your selection.
   - NOA and/or Legal Authority Codes
   - NOA Code + 2 Legal Codes Actions
   - Dual NOA Code Actions

2) Select one of the two options by clicking the option button to the left of your selection.
   - Pure NOA Data --To view all NOA records (with or without matching SSNs in WASS+ Strength tables), select *Pure NOA Data*. (When strength data elements - e.g., Agency Code, Occupational Series, etc. - are selected to be included in output records, those data elements where a match is found are populated; those data elements without a match are left blank.)
   - Edited NOA Data --To view only those NOA records that have a matching SSN in the WASS+ Strength tables, select *Edited NOA Data.* (All records not in WASS+ Strength tables are dropped.)

Menu Instructions

Click ***Previous.*** The *Data File Types* screen appears.

Click ***Next***. Depending on your selection, the appropriate *NOA/Legal Code* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

3.3.2.1 NOA and/or Legal Authority Codes

WASS+ NOA/Legal Screen

If you selected the *NOA and/or Legal Authority Codes* option on the *WASS+ NOA* screen, then the next screen to appear is the *WASS+ NOA/Legal* screen. Use the W*ASS+ NOA/Legal* screen to select NOA and Legal Codes that identify the records you want to analyze.

You have several options for selecting NOA and Legal Authority Codes:

NOA Code without a Legal Authority Code
Selecting a particular NOA Code without selecting a Legal Authority Code will result in extracting ALL records from the database that contain the particular NOA Code, regardless of the Legal Authority Code value.

Selecting NOA Codes

1) Click a particular NOA Code to highlight it.
2) Click the ***right arrow*** to move the NOA Code to the *Selected Combinations* list box.

Deselecting NOA Codes

1) Click the NOA Code in the *Selected Combinations* list box.
2) Click ***'X'*** to deselect the NOA Code.
3) When deselected, the NOA Code no longer appears in the *Selected Combinations* list box.

NOA Code/Legal Authority Code combination
Selecting a particular NOA Code while also selecting a Legal Authority Code will result in extracting *ONLY* those records from the database that contain *BOTH* the selected NOA code AND the selected Legal Authority Code.

Selecting NOA Codes and Legal Authority Codes

1) Click a particular NOA Code to highlight it.
2) Click the ***right arrow*** to move the NOA Code to the *Selected Combinations* list box.
3) Click a particular Legal Authority Code to highlight it.

4) Click the ***left arrow*** to move the Legal Authority Code to the *Selected Combinations* list box.

Deselecting NOA Codes

1) Click the NOA Code in the *Selected Combinations* list box.
2) Click ***'X'*** to deselect the NOA Code.
3) When deselected, the NOA Code no longer appears in the *Selected Combinations* list box.

Deselecting Legal Authority Codes

1) Click the Legal Authority Code in the *Selected Combinations* list box.
2) When deselected, the Legal Authority Code no longer appears in the *Selected Combinations* list box.

Legal Authority Code Only

Selecting a particular Legal Authority Code without selecting a NOA Code will result in extracting ALL records from the database that contain the particular Legal Authority Code, regardless of the NOA Code value.

Selecting Codes

1) Check the *Select Legal Authority Codes Only* checkbox.
2) Click the Legal Authority Code in the *Selected Legal Codes* list box.
3) Click the ***left arrow*** to move the Legal Authority Code to the *Selected Legal Codes* list box.

Deselecting Codes

1) Click the Legal Authority Code in the *Selected Legal Codes* list box.
2) When deselected, the Legal Authority Code no longer appears in the *Selected Legal Codes* list box.

You may select an unlimited number of NOA Code, Legal Code, and NOA/Legal Code Combinations. Each selection adds records to the output data set (is treated as an "OR" condition). For example, suppose that NOA codes 130 and 132 have been selected and moved into the *Selected Combinations* list box. The resulting output table would contain all NOA records containing either a NOA Code of 130 or a NOA Code of 132. If there were 20 records containing NOA Code 130 and 40 records containing NOA Code 132, the resulting output table would contain 60 records. These records could be analyzed either as a single group or as a separate group (by selecting NOA Code as an analytic data element or by break element).

Menu Instructions

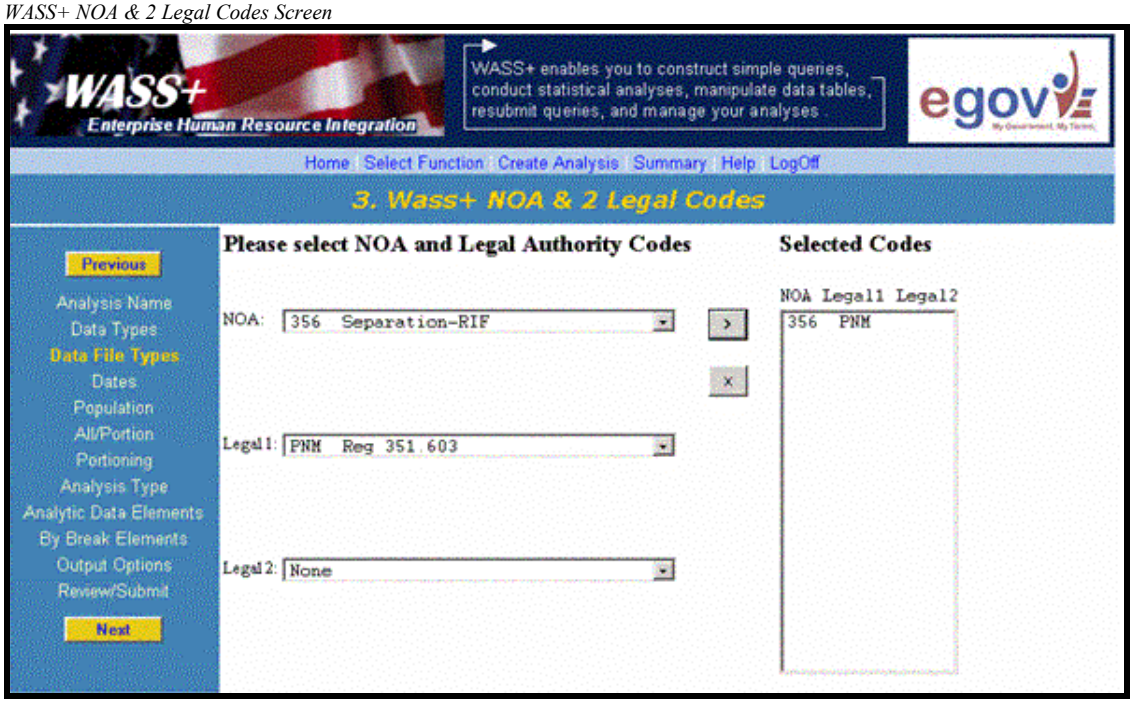
Click ***Previous***. The *WASS+ NOA* screen appears.

Click ***Next***. The *Dates* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.3.2.2 NOA Code & 2 Legal Codes

WASS+ NOA & 2 Legal Codes Screen



If you selected *NOA Code + 2 Legal Codes Actions* from the *WASS+ NOA* screen, the next screen to appear is the WASS+ *NOA & 2 Legal Codes* screen. Use the *WASS+ NOA & 2 Legal Codes* screen to enter your own list of NOA Codes, Legal Authority Codes or NOA/Legal Authority Code combinations.

Using the *WASS+ NOA & 2 Legal Codes* screen, you may:

- Select two Legal Authority Codes (i.e., Legal1 and Legal2) for a given NOA code.
- Select any combination of NOA, Legal1, and Legal2 codes (i.e., ALL codes are optional).

Selecting NOA Codes and/or Legal Authority Codes

1) Select the NOA Code and Legal Authority Code combinations by selecting the codes from the pull down menus.
2) Click on the ***right arrow*** to move the selected code combinations to the *Selected Codes* list box.

Deselecting Codes

1) Click the NOA Code / Legal Authority Code combination in the *Selected Codes* list box.
2) Click ***'X'*** to deselect the combination.
3) When deselected, the Combination no longer appears in the *Selected Codes* list box.

Any Combination of Codes can be a Selection.
Any combination of codes may be chosen as a selection. Each code acts as a constraint when records are extracted from the database. For example, if you choose a particular NOA code (e.g., 356), only records containing that NOA code will be extracted. If no Legal1 or Legal2 codes are chosen, legal codes will not act as constraints. Therefore, all records with a NOA code of 356 will be extracted, regardless of any Legal1 or Legal2 codes associated with the records. However, if you define a Legal1 code (e.g., PNM), only those records meeting BOTH conditions will be extracted (e.g., NOA code of 356 and Legal1 code of PNM).

An Unlimited Number of Selections.
An unlimited number of NOA Code, Legal Code, and/or NOA/Legal Code combinations can be selected. Each selection adds records to the output dataset (is treated as an "OR" condition). For example, suppose that NOA codes 130 and 132 have been selected and moved into the Selected Codes box. The resulting output table would contain all NOA records that included either a NOA Code of 130 or a NOA Code of 132. If there were 20 records containing Code 130 and 40 records containing code 132, the resulting output table would contain 60 records. These records could then be analyzed as either a single group or as a separate group (by selecting the NOA Code as an analytic data element or by break element).

Menu Instructions

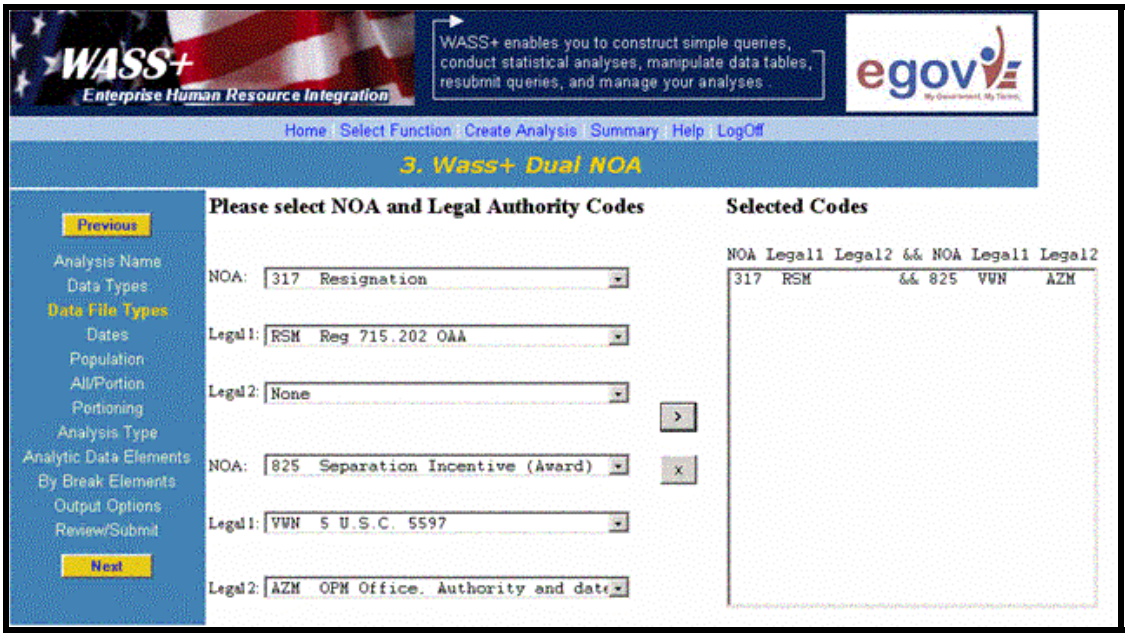
Click ***Previous***. The *WASS+ NOA* screen appears.

Click ***Next***. The *Dates* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.3.2.3 Dual NOA Code Actions

WASS+ Dual NOA Screen



If you selected the *Dual NOA Code Actions* option on the *WASS+ NOA* screen, the next screen to appear is the *WASS+ Dual NOA* screen. Use the *WASS+ Dual NOA* screen to select your own combinations of NOA Codes or NOA/Legal Code combinations.

The *WASS+ Dual NOA* screen is similar to the *WASS+ NOA/Legal* screen - except that you can (and must) enter two NOA codes. Use this screen when you want to extract records that represent dual NOA actions in the same population. The Legal1 and Legal2 codes for each NOA code are optional, and they act as additional constraints—just as is true for the *WASS+ NOA/Legal* screen.

Selecting NOA Codes and/or Legal Authority Codes

1) Select two NOA Codes by selecting the codes from the pull down menus.
2) If desired, select Legal Authority Codes by selecting the codes from the pull down menus.
3) Click on the ***right arrow*** to move the selected code combinations to the *Selected Codes* list box.

Deselecting Codes

1) Click the NOA Code / Legal Authority Code combinations in the *Selected Codes* list box.
2) Click ***'X'*** to deselect the combination.
3) When deselected, the Combination will no longer appear in the *Selected Codes* list box.

An unlimited number of dual NOA codes and/or dual NOA/Legal combinations can be selected. Each selection adds records to the output dataset (is treated as an "OR" condition).

Menu Instructions

Click ***Previous***. The *WASS+ NOA* screen appears.

Click ***Next***. The *Dates* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.3.3 Gains, Losses, Data Element Changes

The Action Trailer table contains records of historical personnel actions or data elements changes that have occurred for each employee. Making quarter-to-quarter comparisons of each employee's personnel record identifies these "transactions". Results from these comparisons can be classified into three major subgroups:

- **Gain Transactions** – Occur when an individual was not in the previous quarter's strength file but is in the current quarter's strength file.
- **Loss Transactions** – Occur when an individual was in the previous quarter's strength file but not in the current quarter's strength file.
- **Data Element Changes** – Occur when an individual is in both quarter's strength files, but certain key data elements (e.g., Pay Grade, Agency, etc.) have changed.

These three categories of transaction data can be further decomposed into tree structures containing more precisely defined actions or events. For example, losses are initially broken down into two subcategories,

Losses from Federal Govt and *Other Losses*. *Losses from Federal Govt* is then decomposed into Voluntary Separations, Involuntary Separations, and Retirements. This process often continues for several levels.

Like NOA transactions, data that can be extracted from the Action Trailer table represents events or actions that occurred *during* a period of time (i.e., a given quarter). For example, Loss transactions tagged to the quarter 1998 09 data represent losses that occurred *during the quarter ending* September 30, 1998.

Also, like both Strength and NOA records, the transactions are keyed by SSN. However, unlike NOA records, all records are unique (i.e., only one record for a given person and transaction type can exist for a given date). There cannot be two promotion records for an individual in a given quarter. Furthermore, this uniqueness partially extends to the major category level. For example, there cannot be both a gain and a loss for a given individual in a given *quarter*. In fact, the only place where the same SSN can be found in a given *quarter* is between various unrelated Data Element Change categories.

3.3.3.1 General Overview of Gain Transactions

WASS+ Gain Transactions are generated in a data preprocessor using a "THIS" vs. "LAST" technique. This technique compares personnel records for the present quarter – the "THIS" data – with personnel records from the previous quarter – the "LAST" data. From this processing, two basic types of gain records are generated: *Gains to Federal Govt* and *Other Gains.*

Gains to Federal Govt is defined as individuals who enter the Federal Government from an external source. Literally defined, these gains are generated when an individual's SSN is present in the "THIS" data but not present in the "LAST" data.

Other Gains is defined as individuals who, during the "THIS" vs. "LAST" comparison period, internally move from either Active to Inactive status (i.e., an inactive Other Gain), or from Inactive to Active status (i.e., an active Gain). Literally defined, these gains are generated when an individual's SSN is present in both the "THIS" data and the "LAST" data, but the Record Indicator has changed.

Once a gain transaction is generated in the data preprocessor, Nature of Action (NOA) transactions are used to further decompose gains into one of 13 subcategories:

- *Gains to Federal Govt* – Accessions Confirmed, Accessions Not Confirmed, Mass Transfers, Other Transfers
- *Active Other Gains* – Returns to Duty, Returns to Duty Not Confirmed
- *Inactive Other Gains* – Suspensions, Leave Without Pay, Leave Without Pay Not to Exceed Date, Furloughs, Sabbaticals, Other Movements, Other Movements Not Confirmed

As a general rule, NOA transaction records usually have effective dates of action that coincide closely with the transaction dates implied by the "THIS" vs. "LAST" processing. For example, if a strength record not in the September quarter data shows up in the December quarter data, usually an accession/gain-related NOA transaction has occurred with an effective date at some point during the December quarter. However, this is not always the case. Because of this, the data preprocessor programs scan for confirming NOA transactions over a fifteen-month window that includes three months into the future and 12 months in the past.

Gain Tree Structure

The Gain tree structure shown below is arranged hierarchically so that the counts at any "parent level" sum to the totals of all "children" at the next lower level. Thus, for example, counts for the parent category *Gains to Federal Govt* will equal the sum of the counts for *Accessions* plus *Transfers In from Outside Fed Govt*. Similarly, counts for the parent category *Accessions* will equal the counts for *Accessions Confirmed* plus *Accessions Not Confirmed*.

Because of this hierarchical structure, many selectable gain transactions are not actually stored in the database but are computed at execution time. These "computed" (or parent-level) transactions are identified with plus (+) marks below. The remaining transactions are actually stored in the database and are generated using the NOA confirmation logic defined above.

+Gains to Federal Govt
- +Accessions
  - -Accessions Confirmed
  - - Accessions Not Confirmed
- +Transfers in from Outside Fed Govt
  - - Mass Transfers
  - - Other Transfers

+Other Gains
- +Returns from Inactive Status (Active Gain Only)
  - - Returns to Duty Confirmed
  - - Returns to Duty Not Confirmed
- + Movements from Active Status (Inactive Gain Only)
  - - Suspensions
  - - Leave Without Pay
  - - Leave Without Pay Not to Exceed Date
  - - Furloughs
  - - Sabbaticals
  - - Other Movements
  - - Other Movements Not Confirmed

3.3.3.2 General Overview of Loss Transactions

WASS+ Loss Transactions are generated in a data preprocessor using a "THIS" vs. "LAST" technique. This technique compares personnel records for the present time period – the "THIS" data – with personnel records from the previous time period – the "LAST" data. From this processing, two basic types of loss records are generated: *Losses to Federal Govt* and *Other Losses*.

Losses to Federal Govt is defined as individuals who leave the Federal Government. Literally defined, these losses are generated when an individual's SSN is present in the "LAST" data but not present in the "THIS" data.

Other Losses is defined as individuals who, during the "THIS" vs. "LAST" comparison period, internally move from either Active or Inactive status (i.e., an active Other Loss), or from Inactive to Active status (i.e., an inactive Other Loss). Literally defined, these losses are generated when an individual's SSN is present in both the "THIS" data and the "LAST" data, but the Record Indicator code has changed.

Once a loss transaction is generated in the data preprocessor, Nature of Action (NOA) transactions are used to further categorize the activities into one of 13 subcategories.

- *Losses to Federal Govt* – Voluntary Separations Confirmed, Voluntary Separations Not Confirmed, Involuntary Separations, Retirements
- *Active Other Losses* – Suspensions, Leave Without Pay, Leave Without Pay Not to Exceed Date, Furloughs, Sabbaticals, Other Movements, Other Movements Not Confirmed
- *Inactive Other Losses* – Returns to Duty, Returns to Duty Not Confirmed

As a general rule, NOA transaction records usually have effective dates of action that coincide closely with the transaction dates implied by the "THIS" vs. "LAST" processing. For example, if a strength record is not in the September quarter data but was in the June quarter, you will usually find a loss-related NOA

transaction with an effective date sometime during the September quarter. However, this is not always the case. Because of this, the data preprocessor programs scan for confirming NOA transactions over a fifteen-month window that includes three months into the future and 12 months in the past.

Loss Tree Structure
The Loss Tree Structure shown below is arranged hierarchically so that the counts at any "parent" level sum to the totals of all the "children" at the next lower level. Thus, for example, counts for the parent category *Losses to Federal Govt* will equal the sum of the counts for *Voluntary Separations* plus *Involuntary Separations* plus *Retirements*. Similarly, counts for the parent category *Voluntary Separations* will equal the counts for *Voluntary Separations Confirmed* plus *Voluntary Separations Not Confirmed*.

Because of this hierarchical structure, many selectable loss transactions are not actually stored in the database, but are computed at execution time. These "computed" (or parent-level) transactions are identified with plus (+) marks below. The remaining transactions are actually stored in the database and are generated using the NOA confirmation logic defined in this section.

+Losses to Federal Govt
- +Voluntary Separations
  - - Voluntary Separations Confirmed
  - - Voluntary Separations Not Confirmed
- - Involuntary Separations
- - Retirements

+Other Losses
- + Returns to Active Status (Inactive Loss Only)
  - - Returns to Duty Confirmed
  - - Returns to Duty Not Confirmed
- +Movements to Inactive Status (Active Loss Only)
  - - Suspensions
  - - Leave Without Pay
  - - Leave Without Pay Not to Exceed Date
  - - Furloughs
  - - Sabbaticals
  - - Other Movements
  - - Other Movements Not Confirmed

3.3.3.3 General Overview of Data Element Changes

WASS+ Data Element Changes are generated in a data preprocessor using a "THIS" vs. "LAST" technique. This technique compares personnel records for the present time period – the "THIS" data – with personnel records from the previous time period – the "LAST" data. From this processing, the basic types of data element change records created are OUT and IN transactions.

Data Elements Changes are displayed separately as OUT and IN transactions. OUT transactions capture an individual's status as of the *end of the previous* quarter. IN transactions capture an individual's status as of the *end of the current* quarter.

As a general rule, NOA transaction records usually have effective dates of action that coincide closely with the transaction dates implied by the "THIS" vs. "LAST" processing. For example, if an individual is a GS-05 in the June quarter and a GS-07 in the September quarter, you will usually find a promotion related NOA transaction with an effective date during the September quarter. However, this is not always the case. Because of this, the data preprocessor programs scan for confirming NOA transaction over a fifteen –month

window that includes three months into the future and 12 months in the past. In this example, a PROMOTION OUT transaction and a PROMOTION IN transaction for the current quarter would be generated.

Data Element Changes Tree Structure

+Data Element Changes In
- + Grade Increases In
  - + All Promotions In
    - - Promotions In
    - - Conversion Increases In
  - - Temporary Promotions In
  - - Grade Inc In Not Conf
- +Grade Decreases In
  - - Changes to Lower Grade In
  - - Conversion Decreases In
  - - Grade Dec In Not Conf
- - Agency Trans In
- - Occupational Series In
- - Employee Tenure In
- - Work Schedule In
- - Agency Sub Trans In

+Data Element Changes Out
- + Grade Increases Out
  - + All Promotions Out
    - - Promotions Out
    - - Conversion Increases Out
  - - Temporary Promotions Out
  - - Grade Inc Out Not Conf
- +Grade Decreases Out
  - - Changes to Lower Grade Out
  - - Conversion Decreases Out
  - - Grade Dec Out Not Conf
- - Agency Trans Out
- - Occupational Series Out
- - Employee Tenure Out
- - Work Schedule Out
- - Agency Sub Trans Out

Menu Instructions

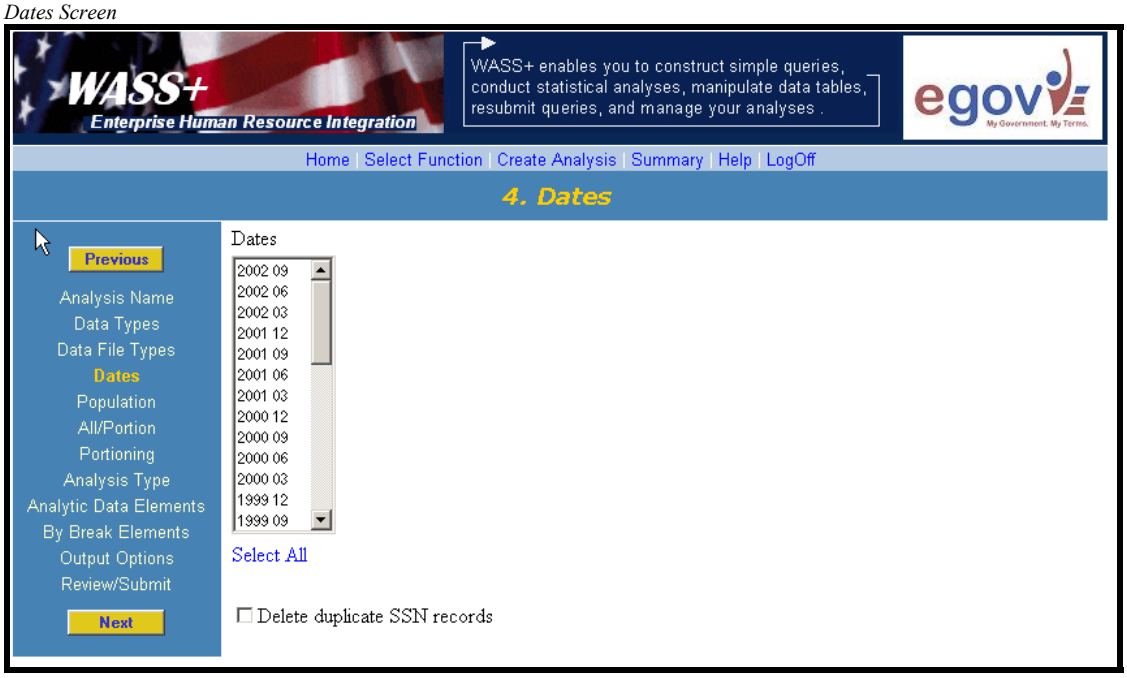
Click ***Previous***. The *Data Types* screen appears.

Click ***Next***. The *Dates* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.4 Dates

Dates Screen



The next screen to appear is the *Dates* screen. The values displayed in the *Dates* list box are those date values available in the selected table. For quarterly tables, the date range spans from 1994 03 to the present date. When processing, one or more date selections must be made to continue processing.

Selecting Dates

1. To select dates for analysis, click on the appropriate "YYYY MM" values in the *Dates* list box to highlight dates
2. To select all dates, click *Select All* at the bottom of the *Dates* list box.

Deselecting Dates

1. To deselect dates, click again on the highlighted dates in the *Dates* list box to remove the highlight.

Selecting Date Groups

The number of date values is dependent on the analysis you wish to perform. For example, if you want to analyze the difference between the average performance appraisal ratings for the quarter ending December 1995 and December 2000, select only those two dates. If you want to analyze data elements over a continuous period of time (e.g., the difference in salaries between males and females from 1994 to the present) to evaluate trends, click ***Select All***.

Processing time is highly dependent on the number of dates selected. Additional date values require additional processing time for the system to produce analysis results.

Delete Duplicate SSN Records

Placing a checkmark in the *Delete Duplicate SSN Records* checkbox enables you to avoid multiple occurrences of SSN records in a given output table. Multiple occurrences can occur when all records for a given time period are not necessarily unique (as is the case with NOA tables), or when multiple time periods have been selected.

The usefulness of this feature depends on the types of questions being asked. For example, the *total number of promotions* occurring in an organization over a time period (e.g., FY1995-FY1998) could be different from

the *total number of "people"* who were promoted in that organization over the same time period. (Some people could have been promoted more than once.) Therefore, *Delete Duplicate SSN Records* allows you to exclude multiple SSN records from your output table, limiting your query results to unique individuals. When this feature is activated, the system keeps the first record encountered for the SSN and discards all duplicates.

Menu Instructions

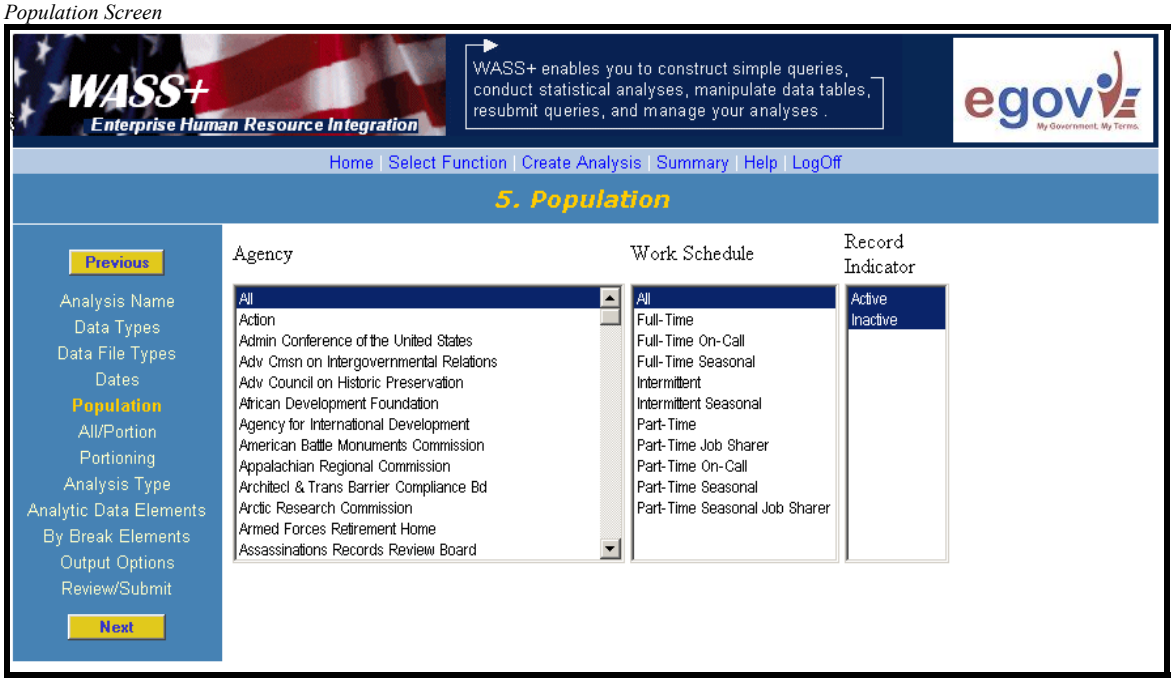
Click ***Previous***. If you selected *NOA* from the *Data File Types* screen, the appropriate NOA screen will appear. Otherwise, the *Data File Types* screen appears.

Click ***Next***. The *Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.5 Population

Population Screen



The next screen to appear is the *Population* screen.

Agency
Choose the agency or agencies to include in the population. If all agencies are to be analyzed, select 'All'.

Work Schedule
The Work Schedule values are 'Full-Time', 'Full-Time On-Call', 'Full-Time Seasonal', 'Intermittent', 'Intermittent Seasonal', 'Part-Time', 'Part-Time Job Sharer', 'Part-Time On-Call', Part-Time Seasonal' and 'Part-Time Seasonal Job Sharer'. To portion on Work Schedule choose the desired values from the list. If all Work Schedules are to be analyzed, select 'All'.

Record Indicator
The Record Indicator values are 'Active' and 'Inactive'. The 'Active' flag identifies all records with an Active/Inactive Strength Indicator code of '1' (Active -- Regular Employment) or '2' (Active -- Special Employment). The 'Inactive' flag identifies all records with an Active/Inactive Strength Indicator code of '4' (Inactive -- Non-Strength Accountable).

At least one value of record indicator must be selected. Both values can be selected if you desire to simultaneously analyze both population groups. In the latter case, the 'Record Indicator' can be selected later as an analytic data element or by break element to identify these records distinctly in the resulting analysis.

Menu Instructions

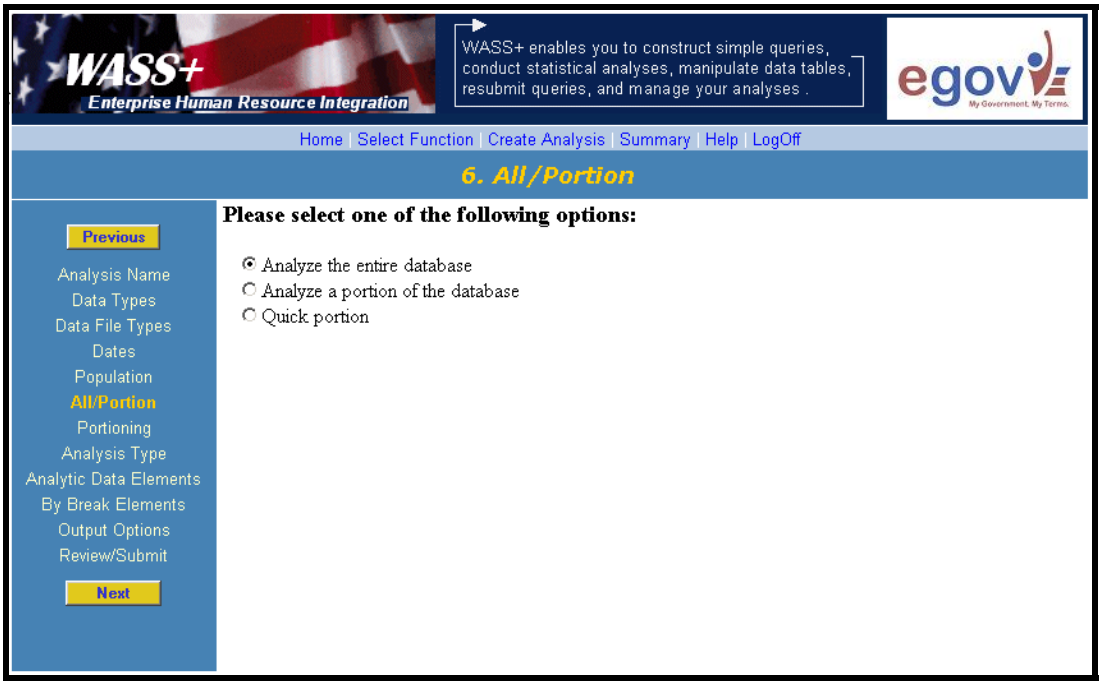
Click ***Previous***. The *Dates* screen appears.

Click ***Next***. The *All/Portion* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.6 All/Portion

All/Portion Screen



The next screen to appear is the *All/Portion* screen. Use the *All/Portion* screen to make decisions regarding the type and size of population group for an analysis. Select one of the following three options by clicking the option button to the left of your selection:

- Analyze the entire database
- Analyze a portion of the database
- Quick portion

Historical Database Population Groups

- Use the ***Analyze the entire database*** option to conduct an analysis on the entire population group defined on the *Population* screen. For example, if you selected a *Data File Type* of STRENGTH, you could analyze the difference in the average Age of males versus females for the entire workforce. If you select a transaction type on the *Data File Types* screen (e.g., voluntary separations), the ***entire*** option enables you to analyze all employees who have voluntarily separated.

- Use the ***Analyze a portion of the database*** option to conduct an analysis on a portion (or subset) of the population group defined in the *Population* screen. The *Portioning* screen prompts you to identify data elements and values for the portion of the database you want to analyze. For example, if you select a *Data File Type* of STRENGTH, and want only the Department of the Treasury agency, Pay Grades 9 through 15, you would select the data elements, Agency and Pay Grade, and appropriate codes on the *Portioning* screen to identify the portion of the database you want to analyze.

- Use the ***Quick portion*** option to conduct an analysis on a commonly defined portion of the population group defined in the *Population* screen. The *Quick Portion* screen allows you to portion the population on either Occupational Category and/or Employee Tenure.

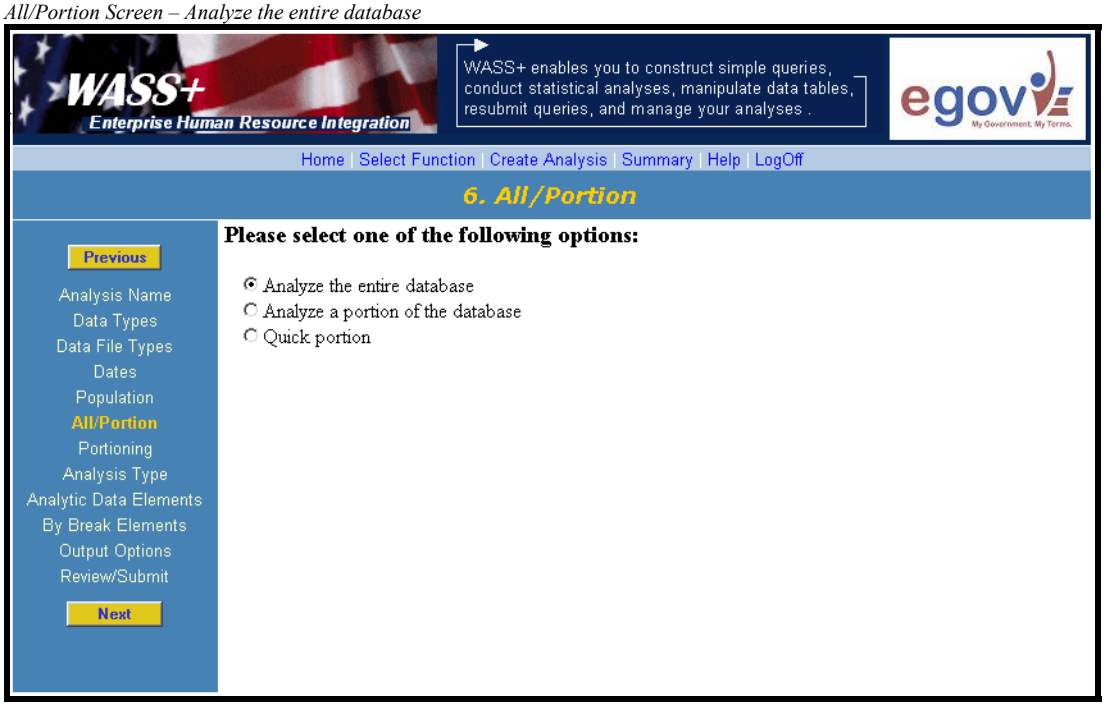
Auxiliary Database Population Groups (a population group created from a non-historical table, e.g. user-loaded table)

- Use the ***Analyze the entire database*** option to conduct an analysis on the entire database. If your data is from a survey of 100,000 employees, this option allows you to analyze ALL 100,000 employees in the database.

- Use the ***Analyze a portion of the database*** option to conduct an analysis on a portion of the database that you identify. For example, if you have data from a survey of 100,000 employees and you want only to analyze data for employees who respond "yes" to a particular question, select this option in the *Portioning* screen.

3.6.1 Analyze the ENTIRE Database

All/Portion Screen – Analyze the entire database



Selecting *Analyze the entire database (*the default) enables you to analyze your entire population group (e.g., all records are included in the analytic query).

Menu Instructions

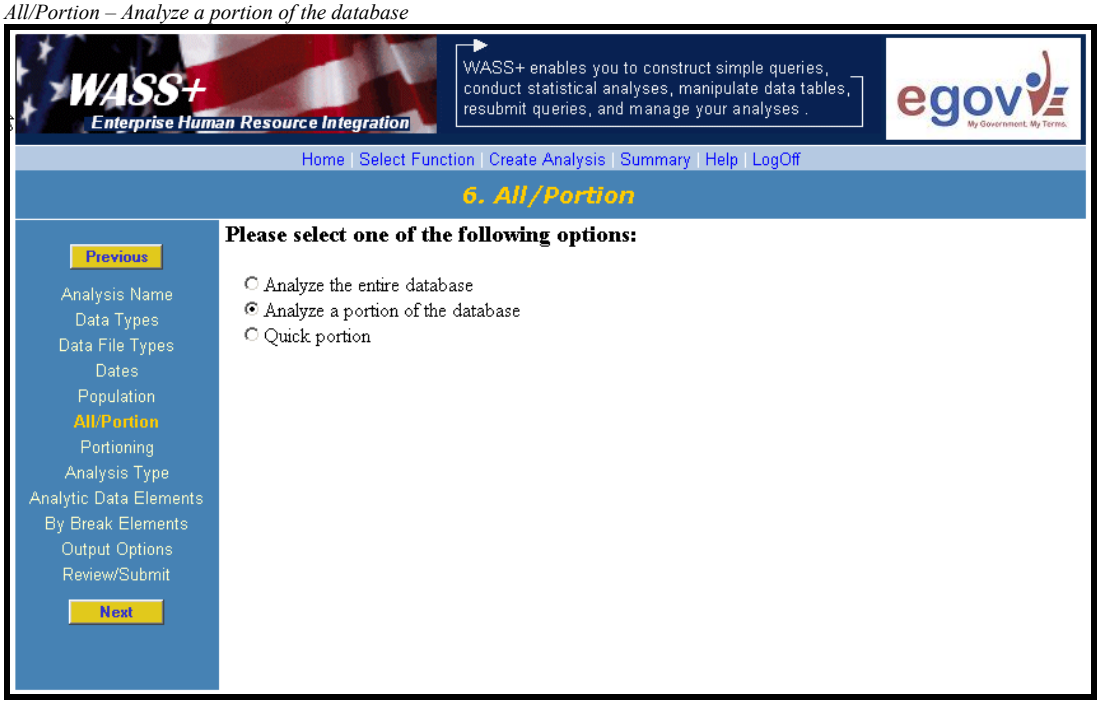
Click ***Previous***. The *Population* screen appears.

Click ***Next***. The *Analysis Type* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.6.2 Analyze a Portion of the Database

All/Portion – Analyze a portion of the database



Selecting *Analyze a portion of the database* enables you to analyze a self-defined portion of a population group. Selecting this option also requires that you make further selections on the *Portioning* screen.

Menu Instructions

Click ***Previous***. The *Population* screen *appears*.

Click ***Next***. The *Portioning* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.6.2.1 Portioning

Portioning Screen

If you select *Analyze a portion of the database* from the *All/Portion* screen, the next screen to appear is the *Portioning* screen. The *Portioning* screen enables you to define the values on which you would like to conduct an analysis. For example, if you selected quarterly data, you might limit your query to a particular Agency and range of Pay Grades—for example, the Department of the Treasury Agency, Pay Grades 9 through 15. You would select only those particular data elements and codes in order to identify the portion of the data you want to analyze. All available data element codes are contained in the individual *Available Portion Elements* folders.

Expanding Folders

To expand a folder, double-click on the folder. To collapse an expanded list of data element values for any given *Available Portion Element*, double-click again on the expanded folder.

Selecting Codes (from expanded list)

1) Click the data element value in the *Available Portion Elements* folder.
2) Once selected, the data element value appears in the *Selected Portion Elements* list.

Selecting Multiple Codes (from expanded list)

1) Hold down the *Shift* key.
2) Click on the top data element value desired from the *Available Portion Elements* folder.
3) Click on the last data element value desired from the *Available Portion Elements* folder.

Deselecting Codes

1) Click the selected data element value in the *Selected Portion Elements* list.
2) When deselected, the date element value no longer appears in the *Selected Portion Elements* list.

Menu Instructions

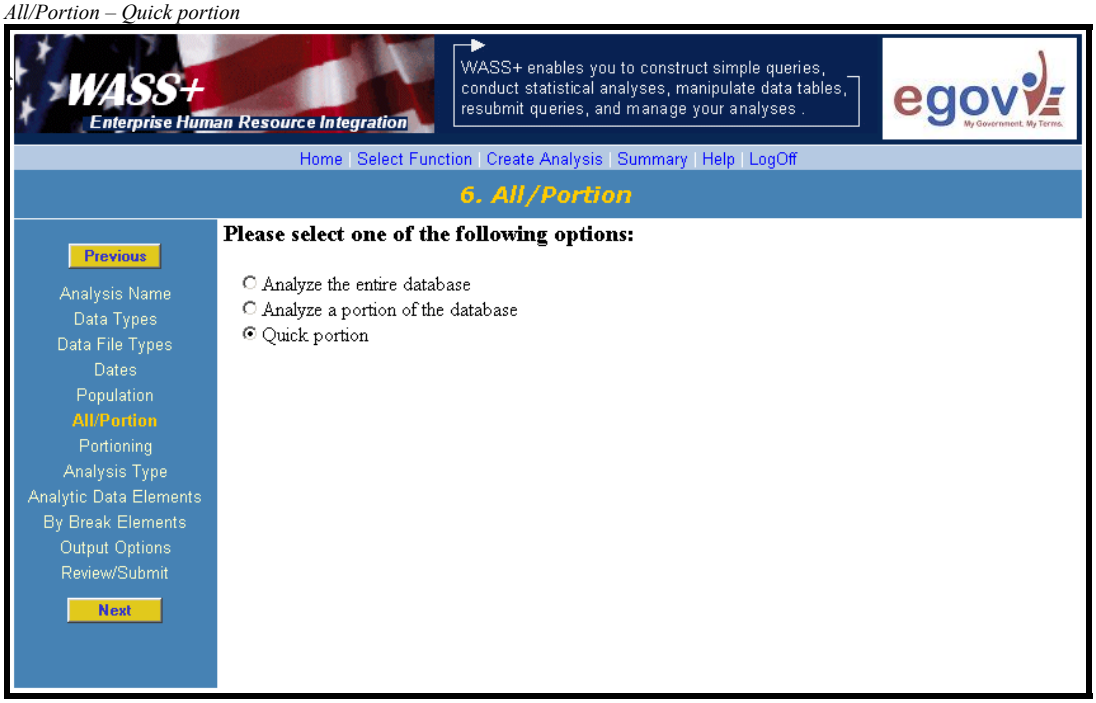
Click ***Previous***. The *All/Portion* screen appears.

Click ***Next***. The *Analysis Type* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.6.3 Analyze a Quick Portion of the Database

All/Portion – Quick portion



Selecting *Quick portion* enables you to select predefined-portions of the selected population. Selecting this option also requires that you make further selections on the *Quick Portion* screen.

Menu Instructions

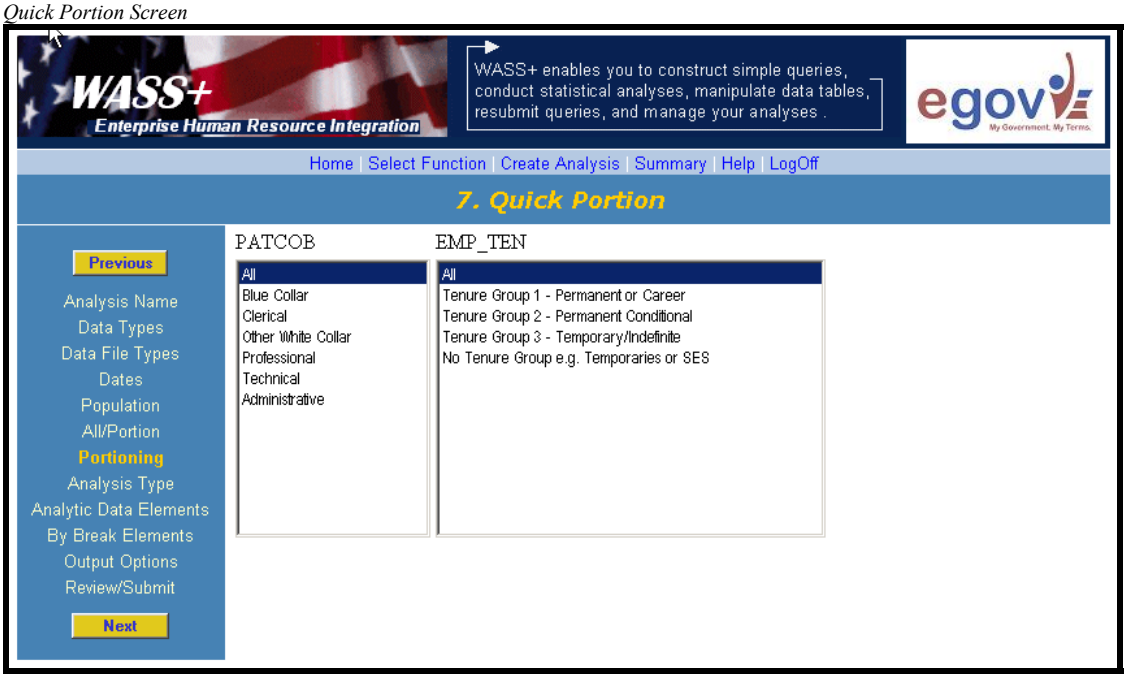
Click ***Previous***. The *Population* screen appears.

Click ***Next***. The *Quick Portion* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.6.3.1 Quick Portion

Quick Portion Screen



If you select *Quick portion* from the *All/Portion* screen, the next screen to appear is the *Quick Portion* screen. The *Quick Portion* screen enables you to quickly portion the population on PATCOB (Occupational Category) and/or Employee Tenure group (e.g., the Professional Occupational Category, Tenure Group 1). You would select only those particular codes in order to identify the portion of the data you want to analyze.

Occupational Category
The Occupational Category values are 'Blue Collar', 'Clerical', 'Other White Collar', 'Professional', 'Technical', and 'Administrative'. To portion on Occupational Category, choose the desired portion values from the list. If all Occupational Categories are to be analyzed, select 'All'.

Employee Tenure
The Employee Tenure values are 'Tenure Group 1 – Permanent or Career', 'Tenure Group 2 – Permanent Conditional', 'Tenure Group 3 – Temporary/Indefinite', and 'No Tenure Group e.g. Temporaries or SES'. To portion on Employee Tenure, choose the desired portion values from the list. If all Employee Tenures are to be analyzed, select 'All'.

Menu Instructions

Click ***Previous***. The *All/Portion* screen appears.

Click ***Next***. The *Analysis Type* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7 Analysis Type

Analysis Type Screen

The next screen to appear is the *Analysis Type* screen. On this screen you may select the type of statistical analysis that you wish to perform.

Performing SAS Analysis
The purpose of WASS+ statistical analysis routines is to determine whether there is a statistically significant answer to the question you asked, such as "Can Education Level and Sex be used to predict Salary?" The choice of a statistical analysis depends on the question, the characteristics of the data elements you need to use to answer the question, and the characteristics of the population for which you wish to answer the question.

In order to pick the correct routine, you need to make sure the question you are asking is answerable as per the description of the statistical routines provided on the menu. Before you pick the statistical routine make sure you know the characteristics of the data elements by conducting the highly recommended exploratory analysis.

Performing an Exploratory Analysis
Before selecting the type of analysis to conduct, perform an exploratory analysis of your data elements to alert you to any potential problems. Examining the results of an exploratory analysis may prevent you from selecting the wrong analysis and thus reaching erroneous conclusions. Two tests used most often to perform an exploratory analysis are *Counts* and *Averages*.

Use *Counts* to evaluate counts, subtotals, totals, and percentages of data elements.

If you determine that you have adequate numbers for an analysis, use *Averages* to view the data element statistics. Then, examine the results of *Averages* to determine whether the distribution of data elements is acceptable.

The results of *Counts* and *Averages* - when examined in this order - will help you identify data elements that may not be suitable for the type of analysis you want to conduct.

For example, for a certain Agency, you may want to determine if Sex and Age can be used to predict Years of Service for American Indians.

The results of *Counts* may reveal that:
(a) There are no female American Indians in the Agency you selected. If so, you would not select an analysis that uses Sex as an independent data element, and you would also not select *Regression Analysis* unless you wanted to know the if Age was a predictor of Years of Service for male American Indians.

Or the results may reveal that:
(b) There are both male and female American Indians in the Agency you selected. If so, you could select *Averages*. By examining the *Averages* you may find that the distribution of the Years of Service for the American Indian females is very skewed. This information may cause you to consider grouping Years of Service into categories.

You should know the characteristics of your population if you intend to answer a question for that population. If you find potential data problems - such as a data element with a highly skewed distribution or population with some unusual characteristics - consult a researcher/analyst before selecting a statistical routine. Understanding potential data problems is critical because they could potentially violate underlying assumptions of the statistical routines. Obtain guidance to identify the major types of potential data problems and remedial actions required before executing your statistical routines.

Generally, if major types of potential data problems do not exist and you have a large population (e.g., a population over 100 when analyzing one or two data elements), you will most likely not be in violation of any underlying assumptions of the statistical routines listed. The key to your effective use of these routines is to make sure you have a clear-cut question that matches what is answerable per the description of the routine provided on the menus and in the following explanations.

WASS+ provides the following Analysis Types:

- Counts
- Averages
- Correlations
- Chi-Square
- Means Test
- T-Test
- Paired T-Test
- ANOVA
- Regression Analysis
- Trend Analysis

Menu Instructions

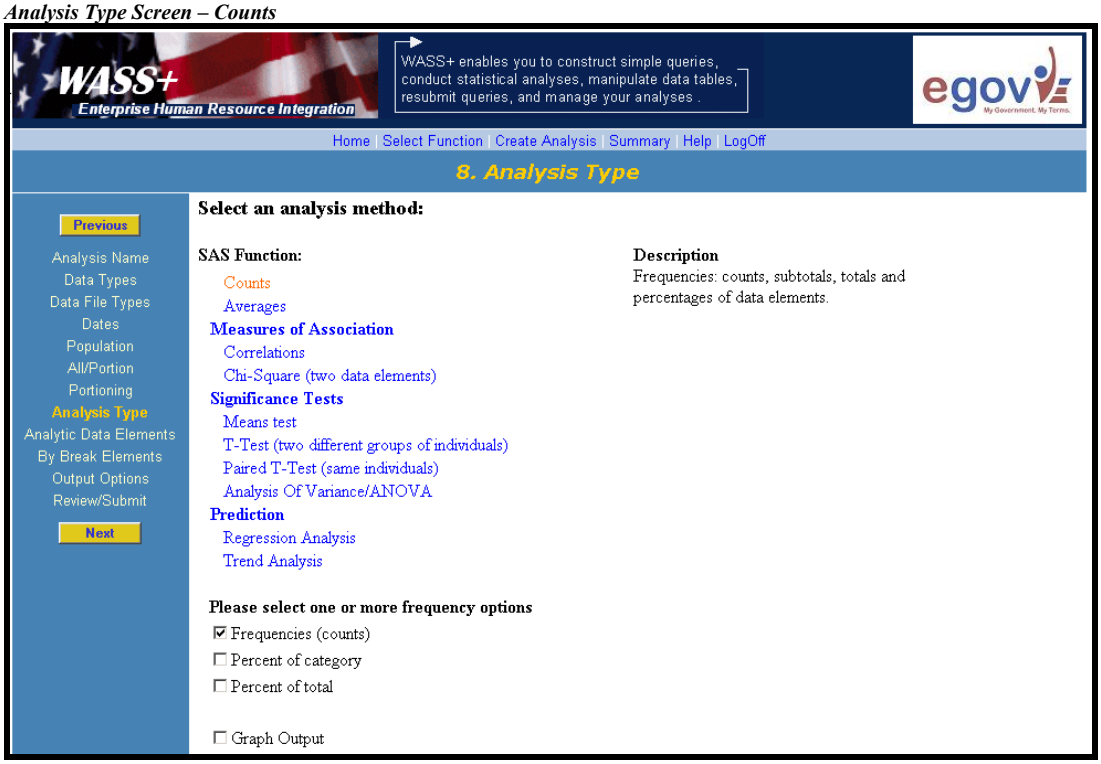
Click ***Previous***. If you selected *Portion*, the *Portioning* screen appears. If you selected *Quick portion*, the *Quick Portion* screen appears. Otherwise, the *All/Portion* screen appears.

Click ***Next***. Depending on the *Analysis Type* you have chosen, the next appropriate screen will appear to continue with the creation of your analysis.

Click ***Help*** to access WASS+ online Help instructions.

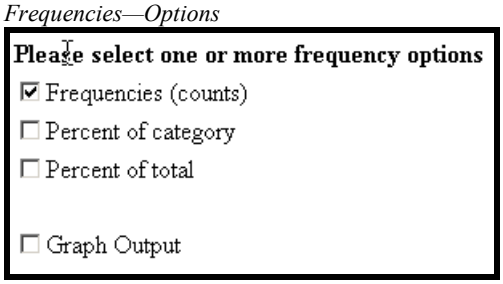
3.7.1 Counts

Analysis Type Screen – Counts



Use *Counts* to view the counts for your selected data elements. Examining the results of *Counts* shows you whether you have adequate numbers for other analysis methods.

Frequencies—Options



Use the Frequency Options to select parameters for the output listing:

- *Frequencies (counts)* provides counts for each classification of the data element (or for multiple data elements) for each combination of classifications. Frequencies (counts) is the default Frequency Option. *Frequencies* (counts) may be turned off (if you desire to see only percentages) by clicking the checkbox.

In addition to generating counts, *one* of the following *Percent* options may be selected:

- *Percent of Category* provides the percentages of the total for *each* classification of the data element - or for multiple data elements - for *each* combination of classifications.
  OR
- *Percent of Total* provides the percentages of the total for ALL classifications of the data element, or for multiple data elements, for *all* combinations of classifications.

Instead of viewing counts or percentages, a *Graph Output* option is available:

- When *Graph Output* is selected, time series or distribution graphs will be produced depending on the number of date values selected.

Select Analysis Type

Click ***Counts*** on the *Analysis Type* screen.

Menu Instructions

Click ***Previous***. If you selected *Portion*, the *Portioning* screen appears. If you selected *Quick portion*, the *Quick Portion* screen appears. Otherwise, the *All/Portion* screen appears.

Click ***Next***. The *Analytic Data Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.1.1 Counts or Percentages

3.7.1.1.1 Select Analytic Data Elements

Analytic Data Elements Screen

Use the *Analytic Data Elements* screen to select the principal data elements you want to analyze. For example, if you wanted to analyze Pay Grade 10 retirements in 1999, you would select Pay Grade as your analytic data element. By examining frequency output listings that show the distribution of data element values, you can evaluate counts, subtotals, totals and percentages of data elements.

You may select up to nine *analytic data elements* from the list provided by the system. One frequency output is created for each data element selected.

Selecting 1 to 9 Data Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected list*.

Deselecting Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

Click ***Previous***. The *Analysis Type* screen appears.

Click ***Next***. The *By Break Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.1.1.2 Select By Break Elements

By Break Elements Screen

Use the *By-Break Elements* screen to conduct your analysis *BY* the data elements that you want. For example, if you want to analyze the performance appraisal ratings of minorities in the Department of the Air Force Agency by Sex and Pay Grade, you would select Sex and Pay Grade on this menu.

Omit By Break Elements

If you do not want your results to be broken out *BY* any data element, check the *Omit By Break Elements* box. If you change your mind, uncheck the *Omit By Break Elements* box.

Selecting 1 to 9 By Break Elements

1) Click the by break element in the *Select By Break Elements* list.
2) Once selected, the by break element appears in the *Selected* list box.

Deselecting By Break Elements

1) Click to highlight a selected by break element in the *Selected* list box.

2) Click the ***left arrow*** button to deselect the selected by break element.
3) When deselected, the data element no longer appears in the *Selected* list box.

Arranging By Break Elements

1) Click to highlight a selected by break element in the *Selected* list box.
2) Use the ***up*** and ***down arrows*** on the right to position the by break element in the selected list.

As you select *by break elements*, notice that the order of your selection is maintained in the *Selected* list box. *By break elements* may be easily re-sequenced, however, by highlighting the selected b*y break element* to be moved, and clicking the ***up*** or ***down arrows*** to the right.

The order (or sequence) of your selections determines how the *BY* break elements will be combined and how the results will be calculated and displayed in your output. In the example above, if Sex is in the first position and Grade is in the second position, Grade will be embedded within each value of Sex. If reversed (i.e., Grade is in the first position and Sex is in the second position), Sex will be embedded within each value of Grade.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

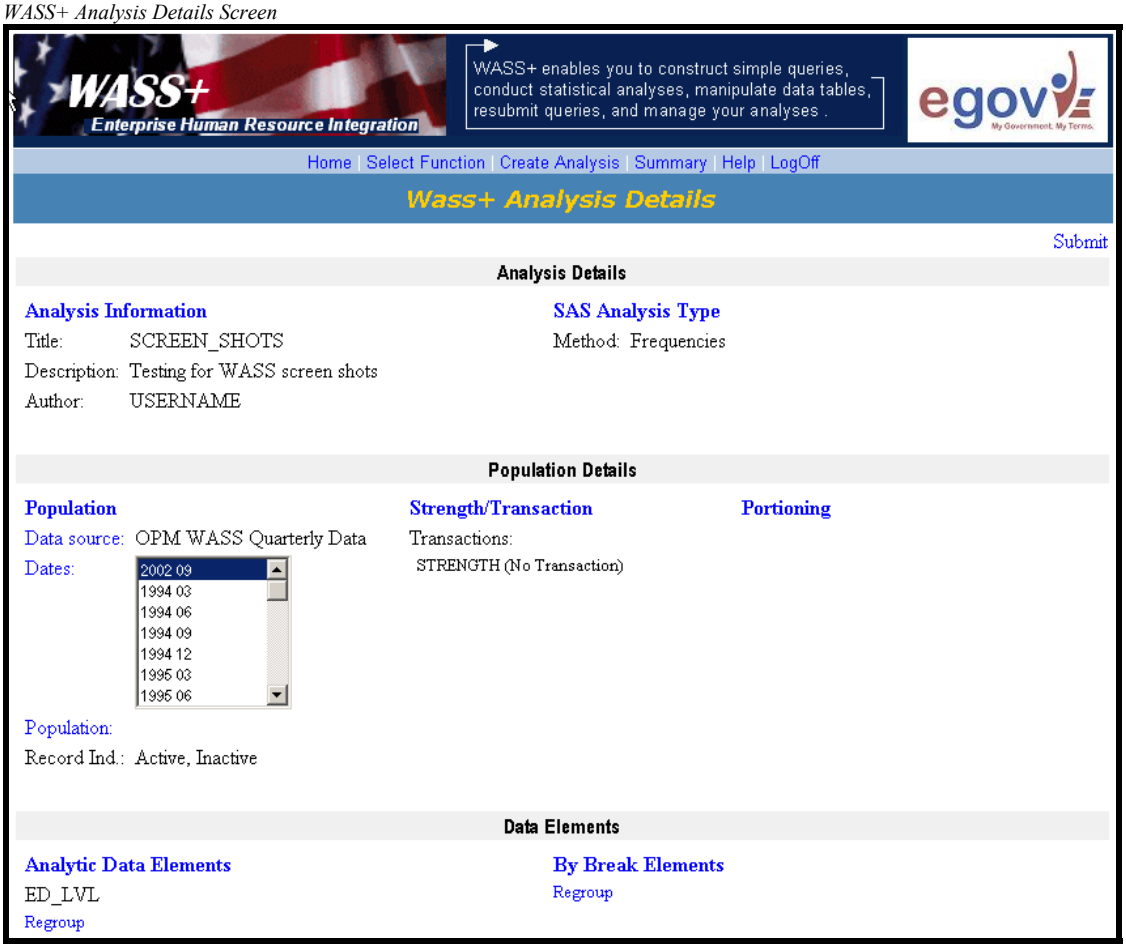
Click ***Previous***. The *Analytic Data Elements s*creen appears.

Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.1.1.3 WASS+ Analysis Details

WASS+ Analysis Details Screen



The next screen to appear is the *WASS+ Analysis Details* screen, displaying all the aspects of your analysis. You may edit any aspect of the analysis by selecting the particular area you want to edit, and you will advance to that particular screen to make changes. Once you make changes, select ***Next***, and you will return to this screen. Once you are satisfied with the selections made for the analysis, click ***Submit*** to advance to the *Review/Submit* screen.

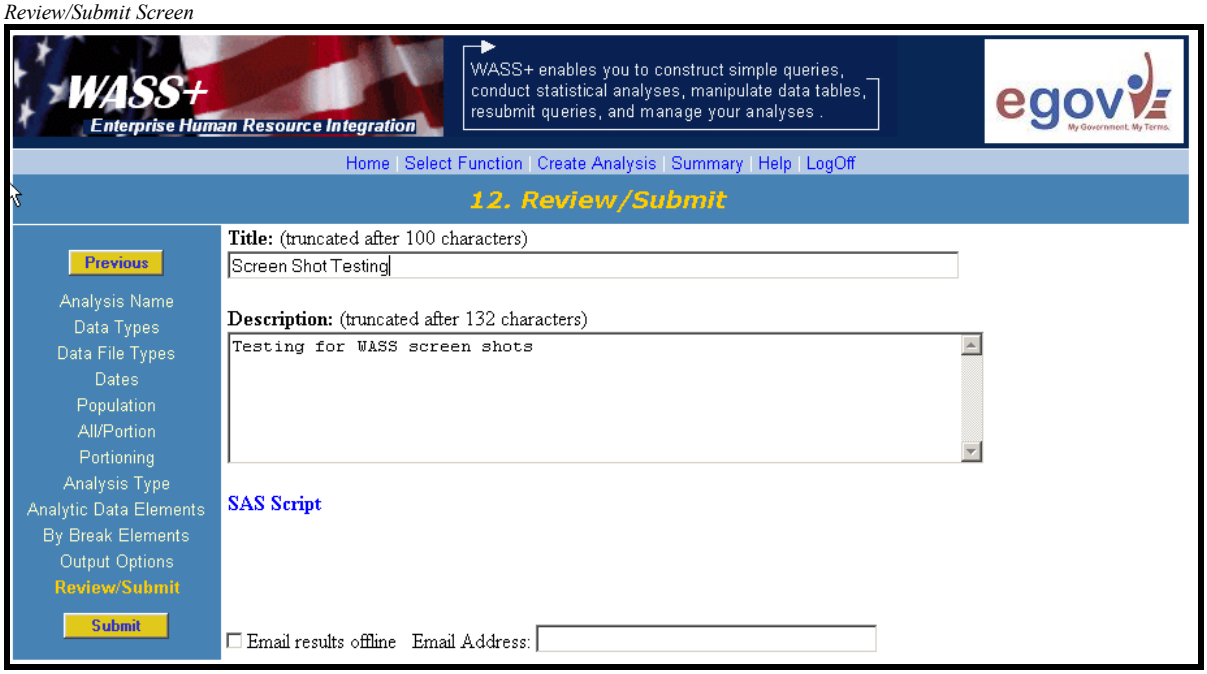
Menu Instructions

Click ***Submit*** to submit your analysis. The *Review/Submit* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

3.7.1.1.4 Review/Submit

Review/Submit Screen



The next screen to appear is the *Review/Submit* screen, displaying the *Title* and *Description* for your analysis. In addition, you have the option to view the *SAS Script* associated with the analysis and *Email Results* to an *Email Address*.

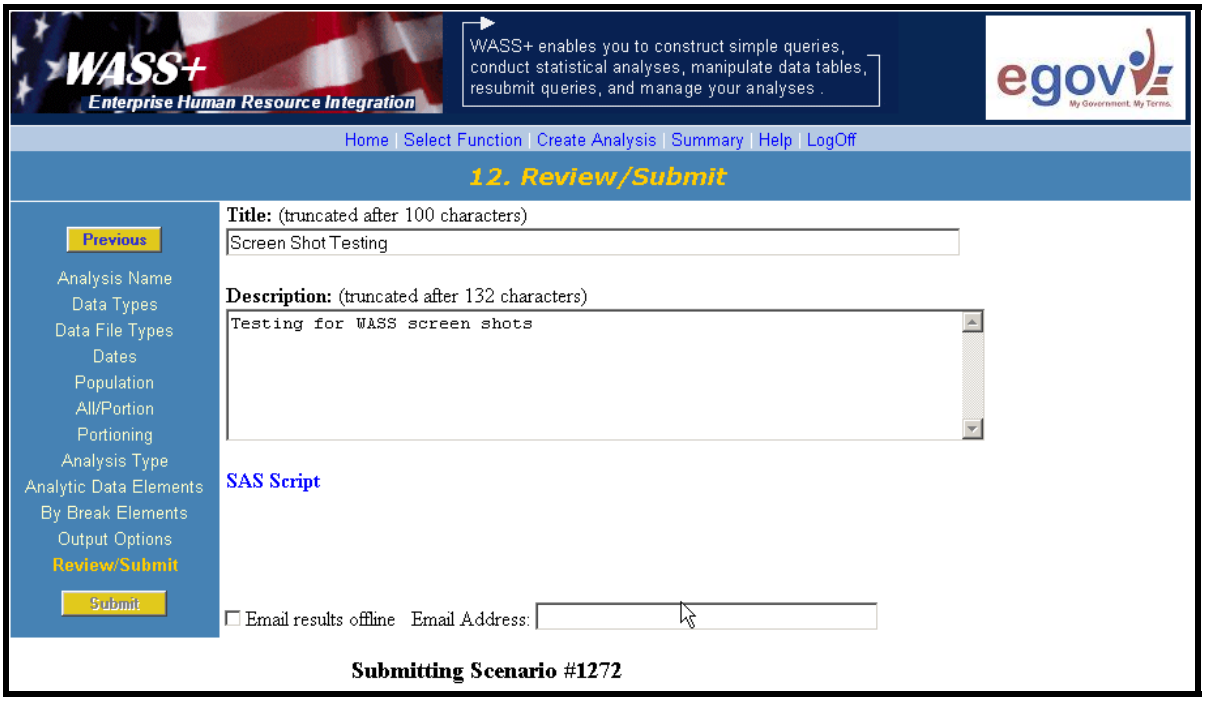
Title
The *Title* field displays the title of your analysis.

Description
The *Description* field provides the description of your analysis.

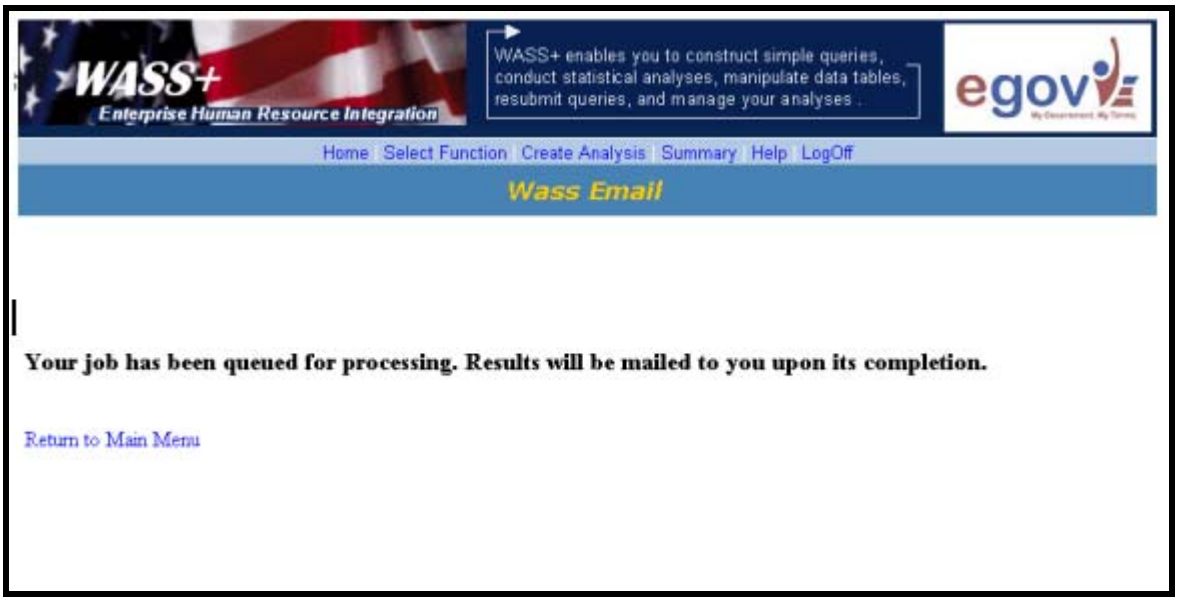
SAS Script
Click ***SAS Script*** to view the partial SAS script associated with your analysis.

Email Results/ Email Address
Check the box next to *Email Results Offline* if you wish to have email notification of your analysis results. If you click this box, also place your email address in the *Email Address* field.

Review/Submit Screen



The message *Submitting Scenario* will appear on the screen once the analysis has been submitted. Results will be displayed on the screen once the query has completed.



If the *Email results offline* option is chosen, the message *Your job has been queued for processing. Results will be mailed to you upon its completion* will appear on the screen once the analysis has been submitted.

3.7.1.2 Graph Output

If one quarter is selected on the *Dates* screen, then you may create distribution graphs in the form of bar, pie or grouped bar charts. If multiple dates are selected, then you may create time series graphs.

3.7.1.2.1 Distribution Charts

If only one quarter was selected on the *Dates* screen, then bar, pie or grouped bar distribution charts may be created.

3.7.1.2.1.1 Select Analytic Data Elements

Analytic Data Elements Screen

Use the *Analytic Data Elements* screen to select the principal data elements you want to graph. For example, if you want to graph the strength counts for each Sex by Pay Grade, then select Sex on this menu.

You may select up to nine *Analytic Data Elements* from the list provided by the system. One distribution graph is created for each analytic data element selected.

Selecting 1 to 9 Data Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected* list.

Deselecting Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

Click ***Previous***. The *Analysis Type* screen appears.

Click ***Next***. The *By Break Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.1.2.1.2 Select By Break Elements

By Break Elements Screen

Use the *By Break Elements* screen to create grouped bar charts. For example, if you want to graph the strength counts for each Sex by Pay Grade, then select Pay Grade on this menu. If no by break element is selected, then bar or pie distribution graphs may be created. If a by break element is selected, then you have the option to create bar or pie distribution graphs or grouped bar distribution graphs.

Omit By Break Elements

If you do not want your results to be broken out *BY* any data element, check the *Omit By Break Elements* box. If you change your mind, uncheck the *Omit By Break Elements* box.

Selecting 1 to 9 By Break Elements

1) Click the by break element in the *Select By Break Elements* list.
2) Once selected, the by break element appears in the *Selected* list box.

Deselecting By Break Elements

1) Click to highlight a selected by break element in the *Selected* list box.
2) Click the ***left arrow*** button to deselect the selected by break element.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

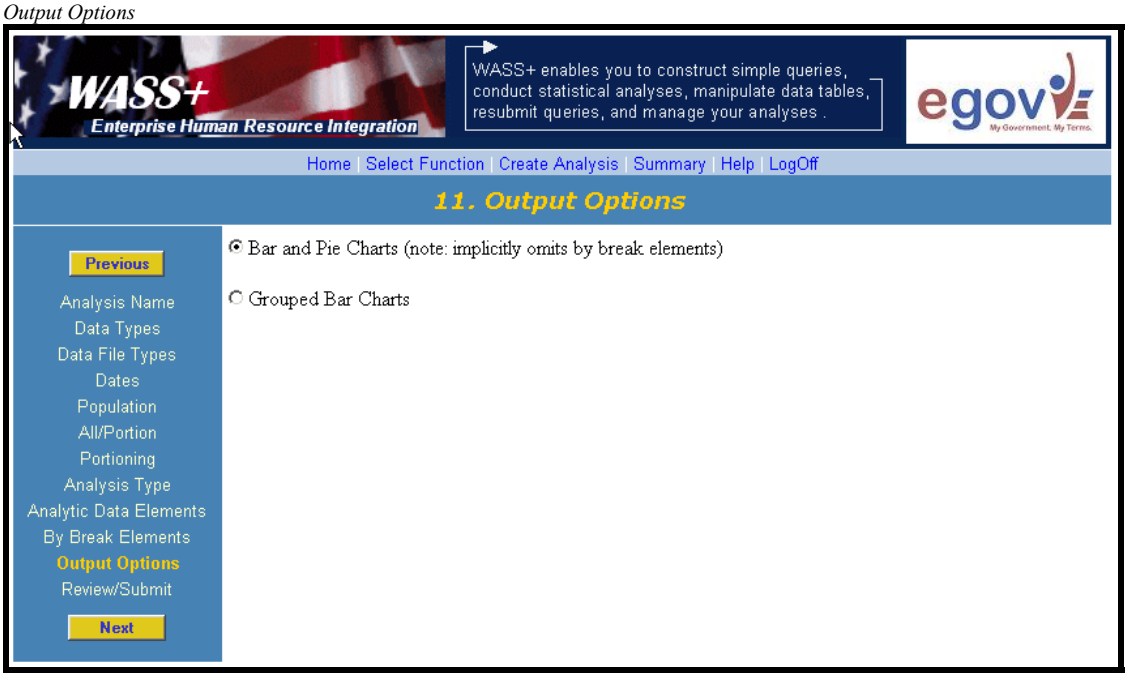
Click ***Previous***. The *Analytic Data Elements s*creen appears.

Click ***Next***. If by break elements are selected, the *Output Options* screen appears.
If by break elements are omitted, the *Chart Options* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.1.2.1.3 Output Options

Output Options



The *Output Options* screen will only appear if a by break element was selected on the previous screen. If by break elements were omitted, then proceed to the *Chart Options* screen.

- If Bar and Pie Charts is selected than the by break element will be ignored.
- If Grouped Bar Charts is selected, then the by break element will be include in the grouped bar distribution graph.

Menu Instructions

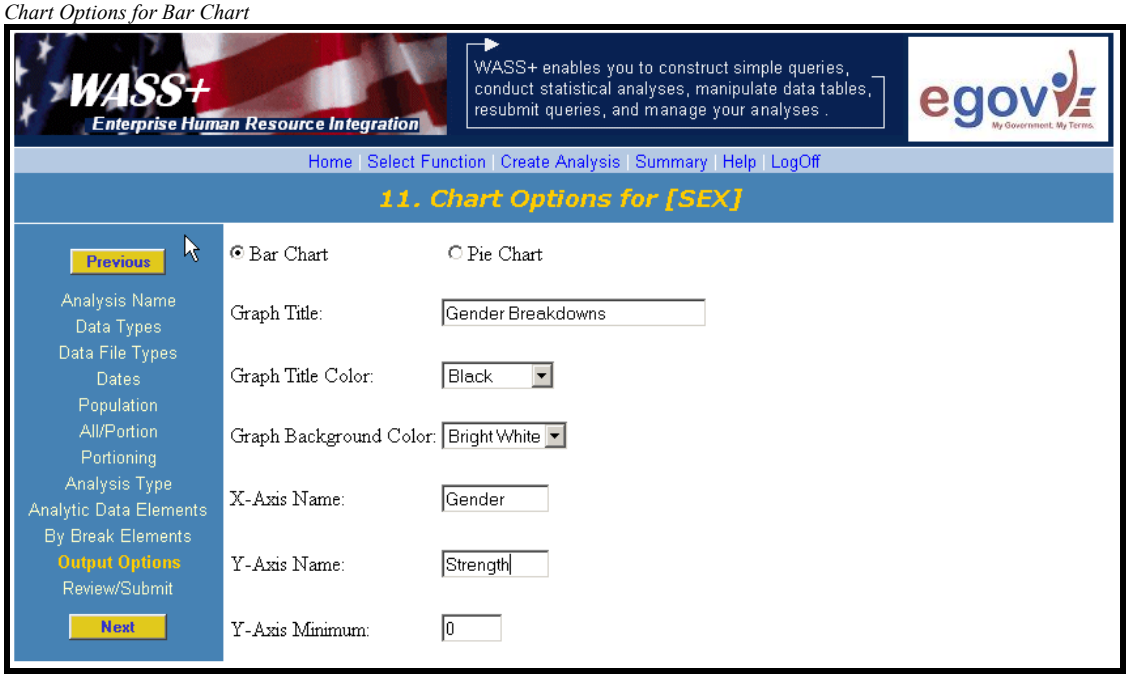
Click ***Previous***. The *By Break Elements s*creen appears.

Click ***Next***. The *Chart Options* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

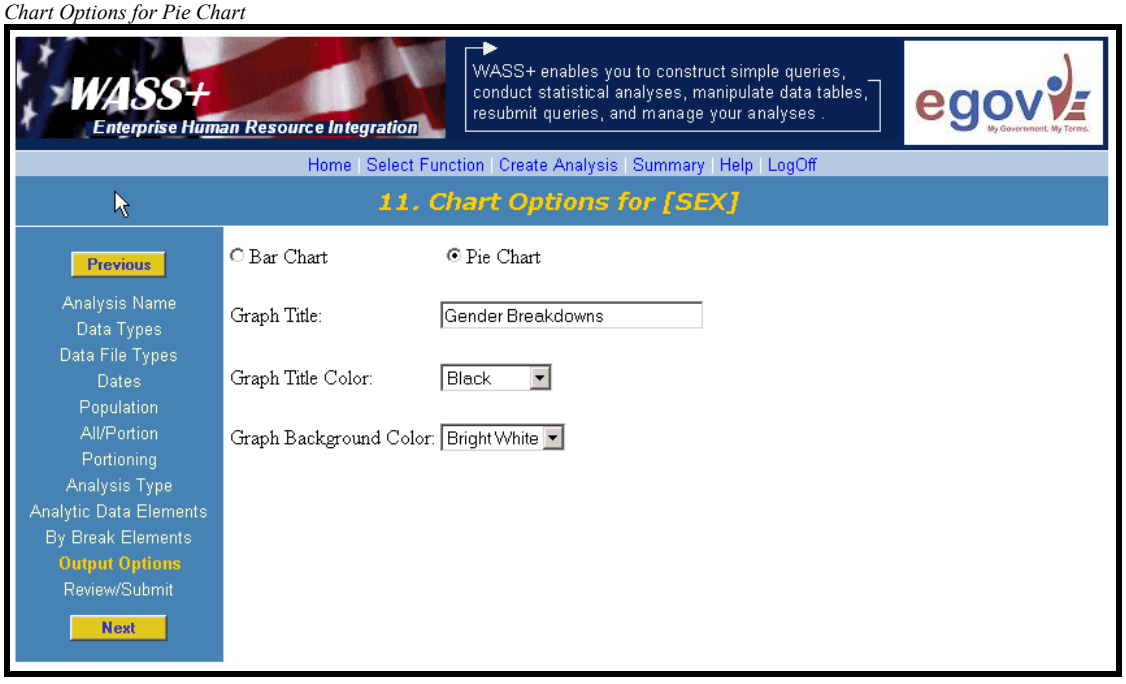
3.7.1.2.1.4 Chart Options

Chart Options for Bar Chart



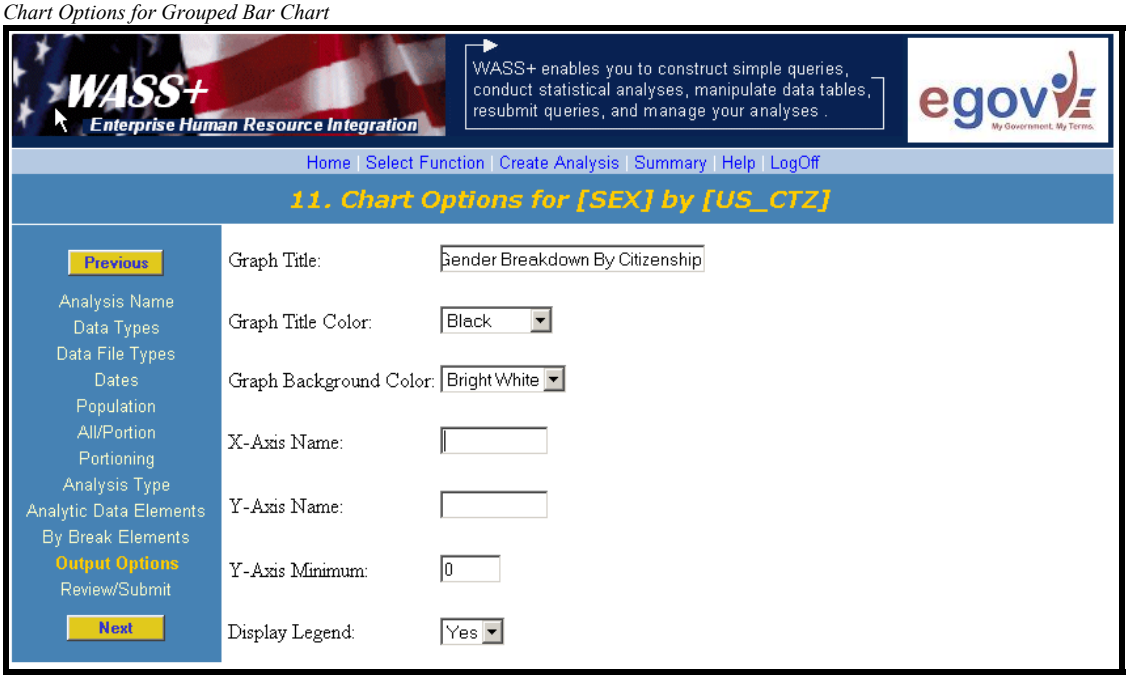
If a *Bar Chart* is chosen, then the chart options include Graph Title, Graph Title Color, Graph Background Color, X-Axis Name, Y-Axis Name, and Y-Axis Minimum. If multiple analytic data elements where selected on the *Analytic Data Elements* screen, there will be a *Chart Options* screen for each analytic data element.

Chart Options for Pie Chart



If a *Pie Chart* is chosen, then the chart options include Graph Title, Graph Title Color and Graph Background Color. If multiple analytic data elements where selected on the *Analytic Data Elements* screen, there will be a *Chart Options* screen for each analytic data element.

Chart Options for Grouped Bar Chart



If a *Grouped Bar Chart* is chosen, then the chart options include Graph Title, Graph Title Color, Graph Background Color, X-Axis Name, Y-Axis Name, Y-Axis Minimum, and Display Legend. If multiple analytic data elements where selected on the *Analytic Data Elements* screen, there will be a *Chart Options* screen for each analytic data element.

Menu Instructions

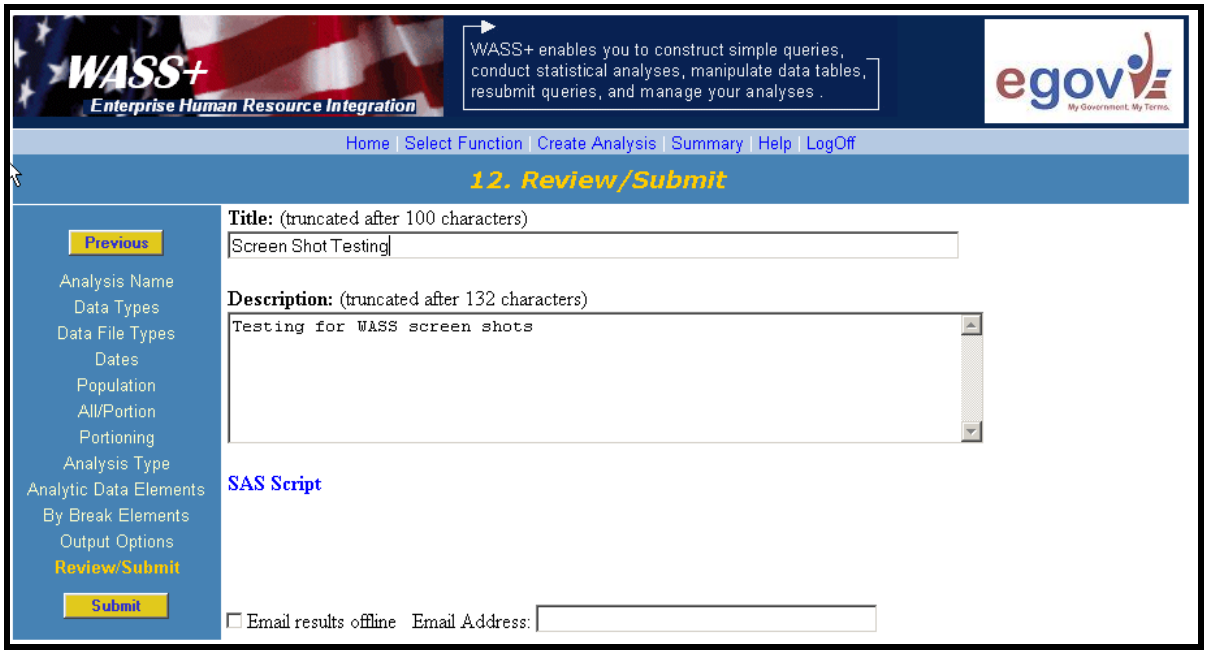
Click ***Previous***. The *By Break Elements s*creen or the *Output Options* screen appears.

Click ***Next*** to submit your analysis. The *Review/Submit* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

3.7.1.2.1.5 Review/Submit

Review/Submit Screen



The next screen to appear is the *Review/Submit* screen. Here you can enter a title and description from your output. (Note: The *Title* and *Description* are not printed on graphical output.) In addition, you have the option to view the *SAS Script* associated with the analysis and *Email Results* to an *Email Address*.

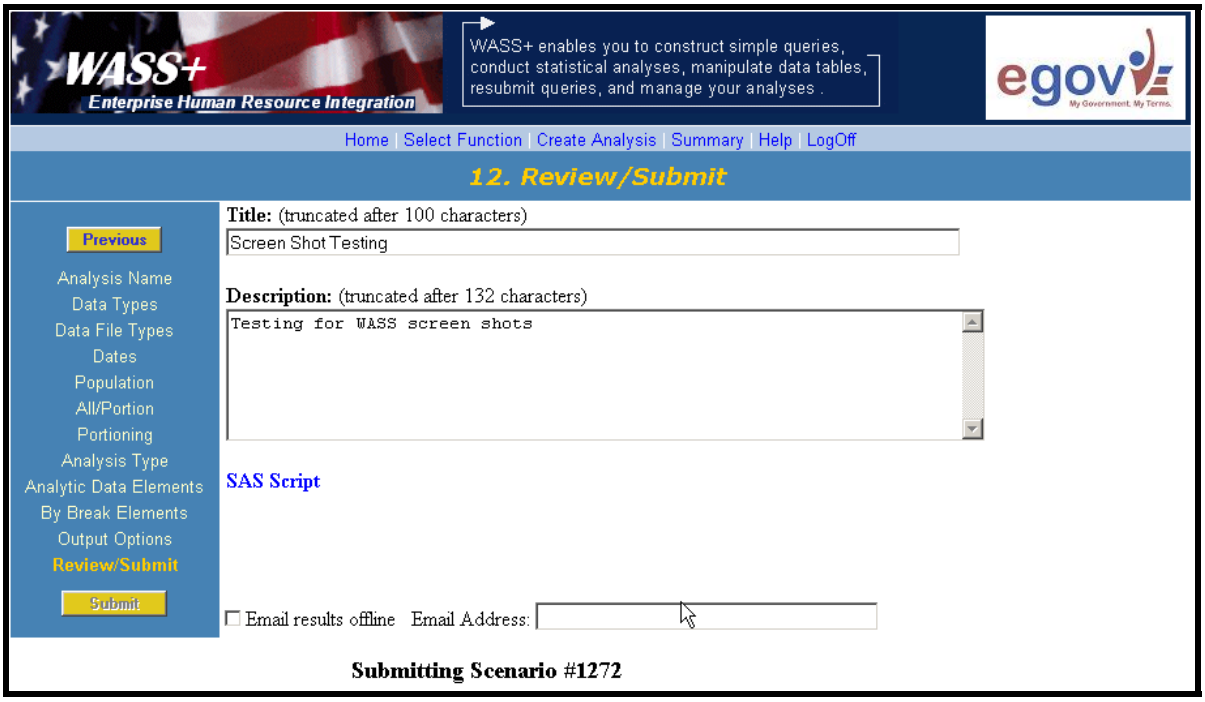
Title
The *Title* field displays the title of your analysis. (This will not appear on graphical output.)

Description
The *Description* field provides the description of your analysis. (This will not appear on graphical output.)

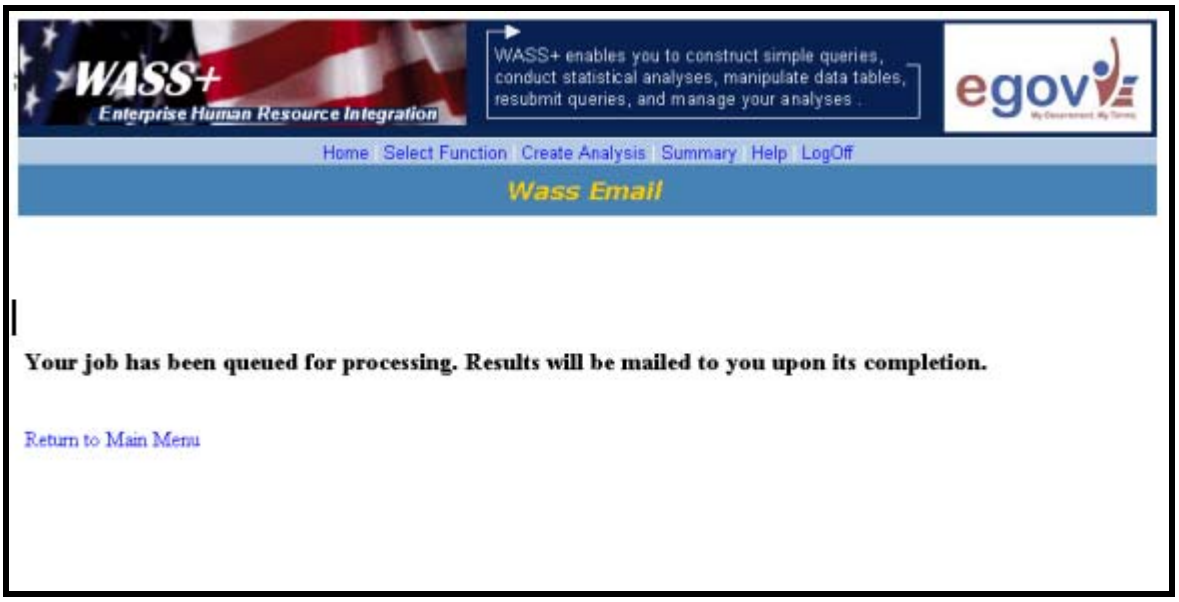
SAS Script
Click ***SAS Script*** to view the SAS script associated with your analysis.

Email Results/ Email Address
Check the box next to *Email Results Offline* if you wish to have email notification of your analysis results. If you click this box, also place your email address in the *Email Address* field.

Review/Submit Screen



The message *Submitting Scenario* will appear on the screen once the analysis has been submitted. Results will be displayed on the screen once the query has completed.



If the *Email results offline* option is chosen, the message *Your job has been queued for processing. Results will be mailed to you upon its completion* will appear on the screen once the analysis has been submitted.

3.7.1.2.2 Time Series Charts

If multiple quarters were selected on the *Dates* screen, then time series charts may be created.

3.7.1.2.2.1 Select Analytic Data Elements

Analytic Data Elements Screen

Use the *Analytic Data Elements* screen to select the principal data elements you want to graph. For example, if you want to graph the strength counts for Sex over time, then select Sex on this menu.

You may select up to nine *analytic data elements* from the list provided by the system. One time series graph is created for each analytic data element selected.

Selecting 1 to 9 Data Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected list*.

Deselecting Data Elements

1) Click the selected data element in the Selected list.
2) When deselected, the data element no longer appears in the Selected list.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine

codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

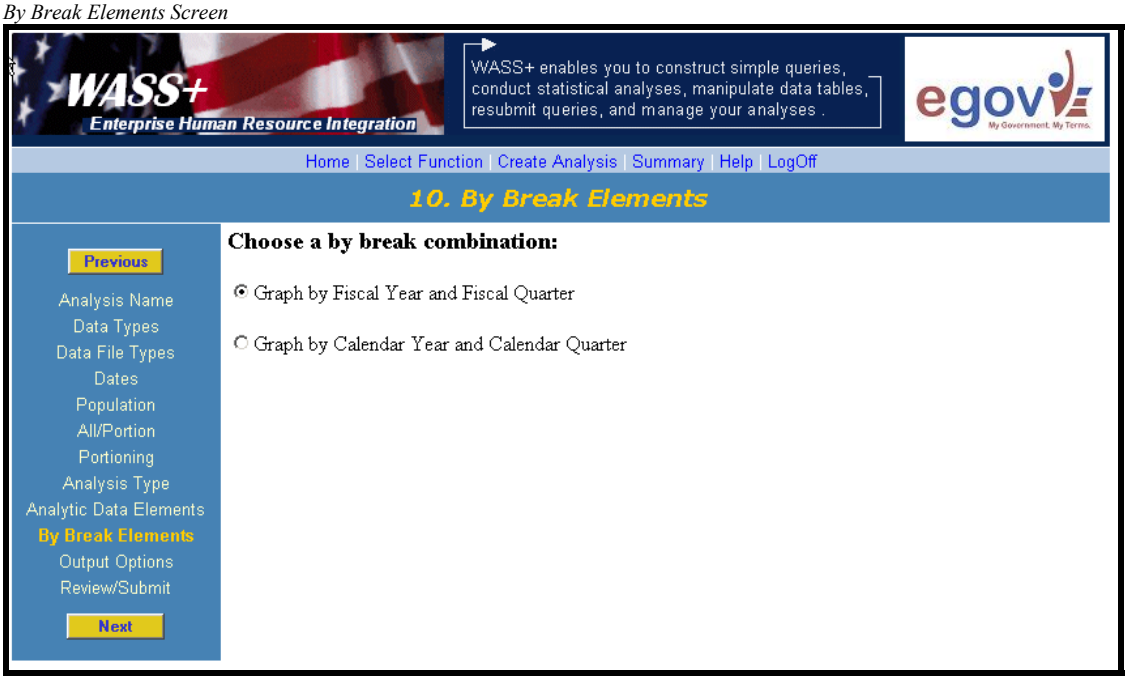
Click ***Previous***. The *Analysis Type* screen appears.

Click ***Next***. The *By Break Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.1.2.2.2 Select By Break Elements

By Break Elements Screen



Use the *By Break Elements* screen to display your graph *BY* the fiscal time periods or calendar time periods.

Menu Instructions

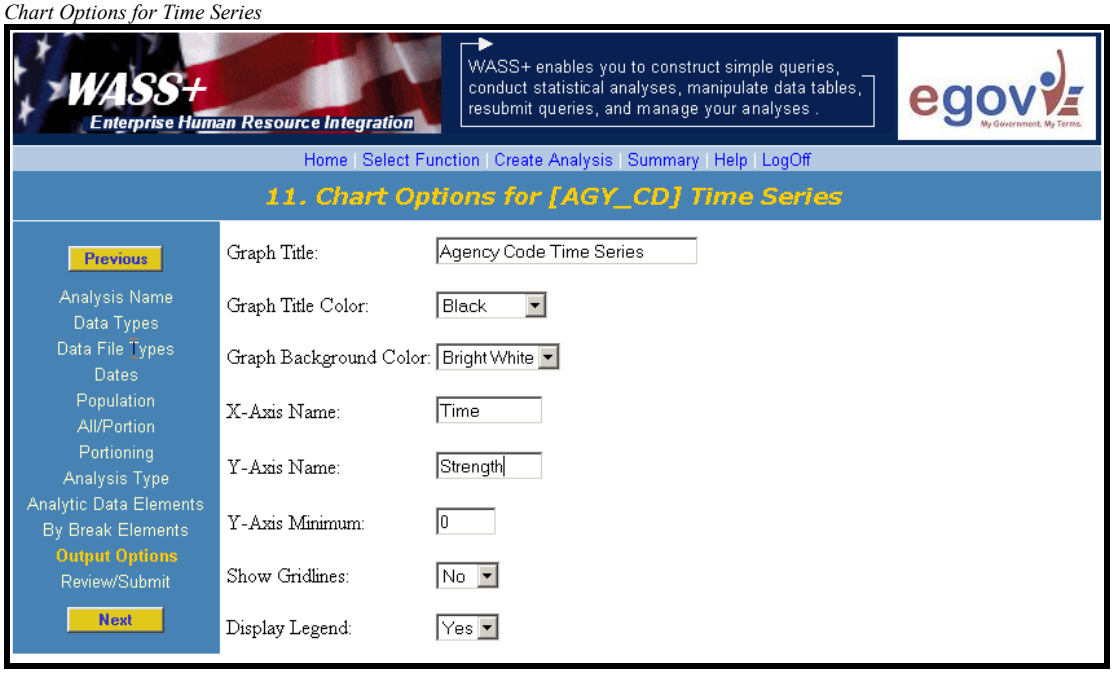
Click ***Previous***. The *Analytic Data Elements* screen appears.

Click ***Next***. The *Chart Options* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.1.2.2.3 Chart Options

Chart Options for Time Series



If a *Time Series Chart* is chosen, then the chart options include Graph Title, Graph Title Color, Graph Background Color, X-Axis Name, Y-Axis Name, Y-Axis Minimum, Show Gridlines, and Display Legend. If multiple analytic data elements where selected on the *Analytic Data Elements* screen, there will be a *Chart Options* screen for each analytic data element.

Menu Instructions

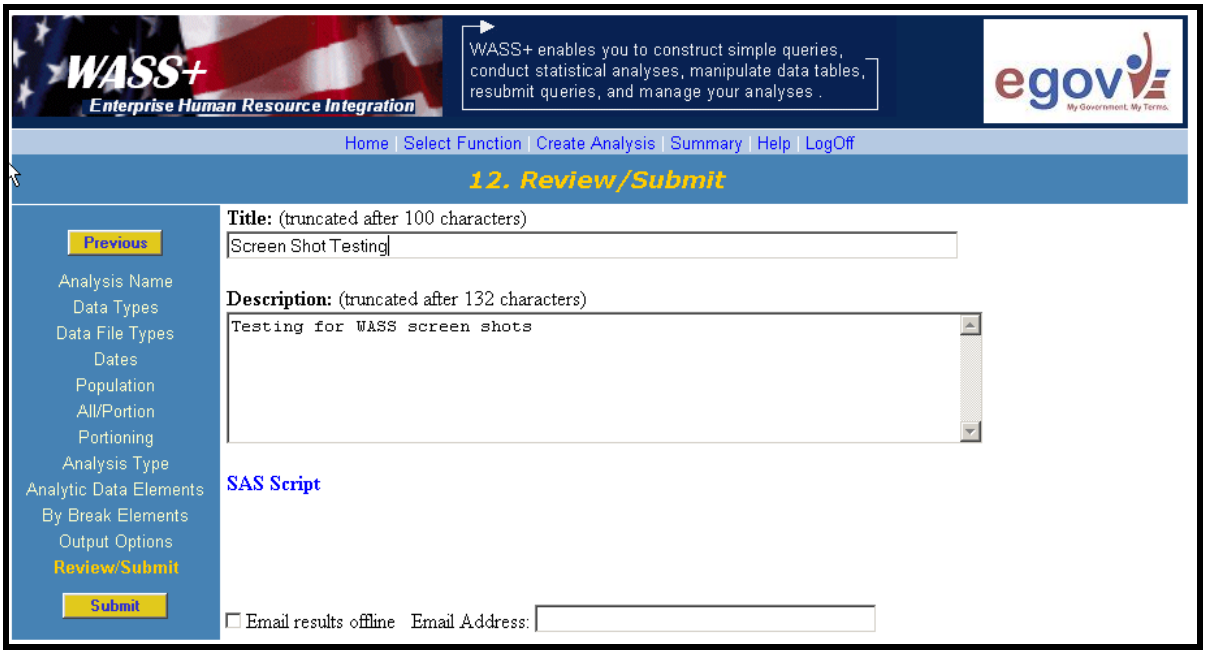
Click ***Previous***. The *By Break Elements s*creen appears.

Click ***Next***. The *Review/Submit* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

3.7.1.2.2.4 Review/Submit

Review/Submit Screen



The next screen to appear is the *Review/Submit* screen. The *Title* and *Description* are not printed on your graphical output. In addition, you have the option to view the *SAS Script* associated with the analysis and *Email Results* to an *Email Address*.

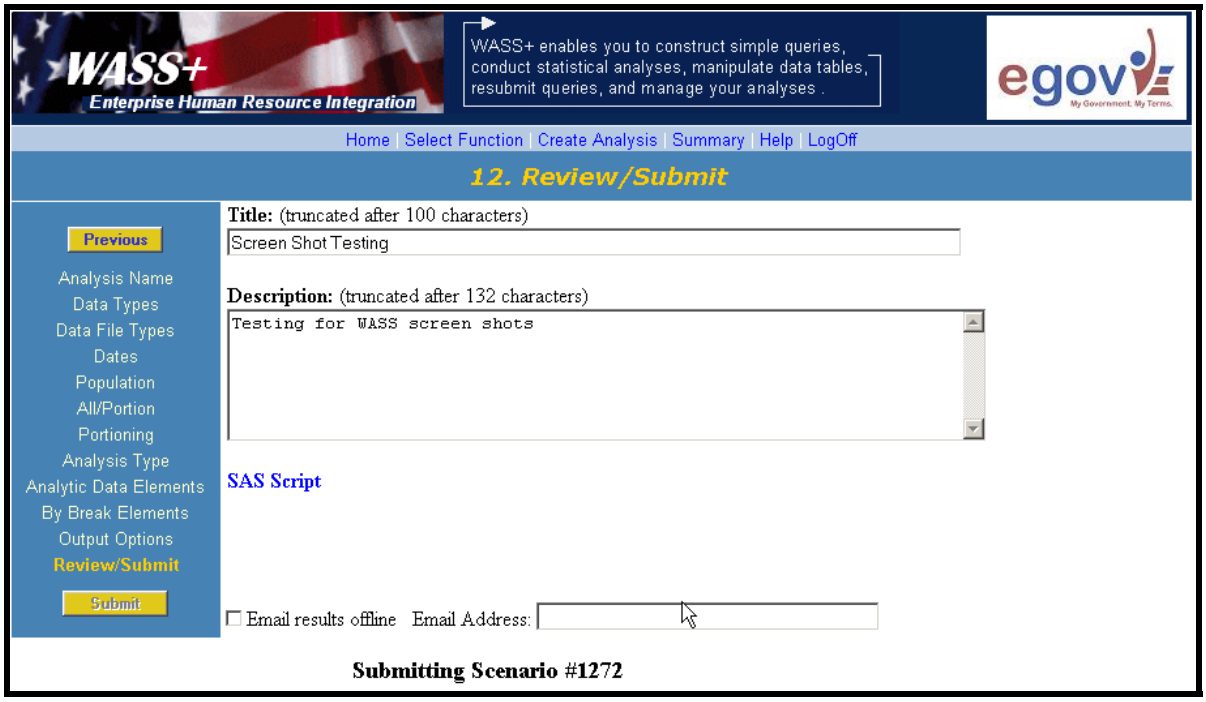
Title
The *Title* field displays the title of your analysis.

Description
The *Description* field provides the description of your analysis.

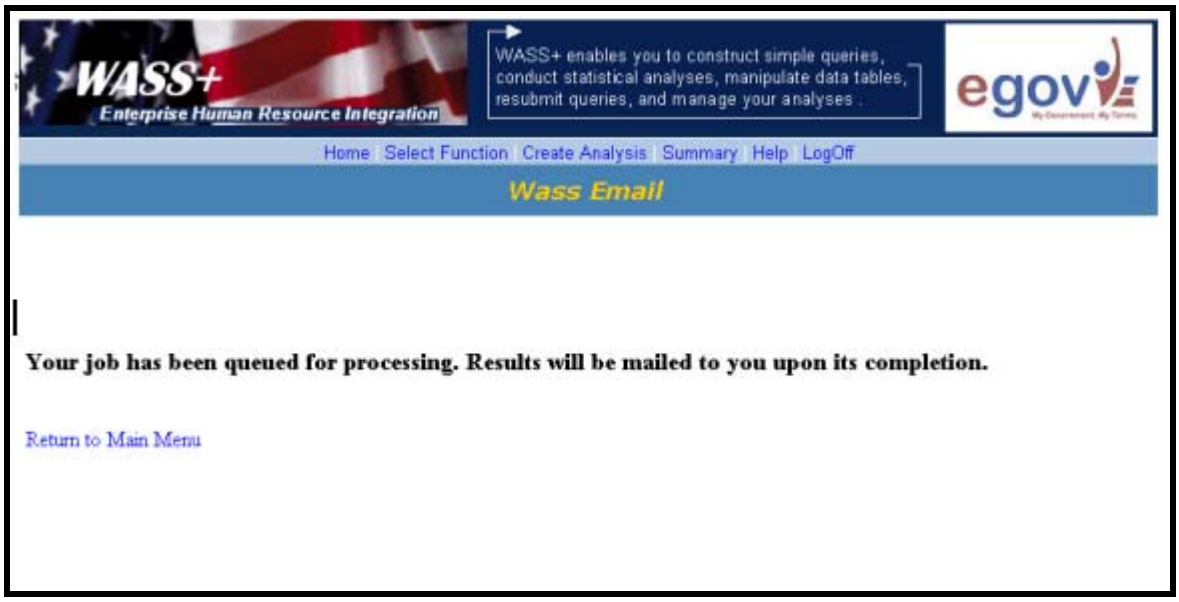
SAS Script
Click ***SAS Script*** to view the SAS script associated with your analysis.

Email Results/ Email Address
Check the box next to *Email Results Offline* if you wish to have email notification of your analysis results. If you click this box, also place your email address in the *Email Address* field.

Review/Submit Screen



The message *Submitting Scenario* will appear on the screen once the analysis has been submitted. Results will be displayed on the screen once the query has completed.



If the *Email results offline* option is chosen, the message *Your job has been queued for processing. Results will be mailed to you upon its completion* will appear on the screen once the analysis has been submitted.

3.7.2 Averages

Analysis Type Screen – Averages

If you determine that you have adequate numbers for an analysis, use the *Averages* to view the data element statistics. Examining the results of *Averages* will help determine whether the distribution of data elements is acceptable.

Use *Averages* to evaluate simple statistical descriptions and graphs (e.g., averages, standard deviations, smallest/largest values, and other descriptions of data elements).

Select Analysis Type

Click ***Averages*** on the *Analysis Type* screen.

Menu Instructions

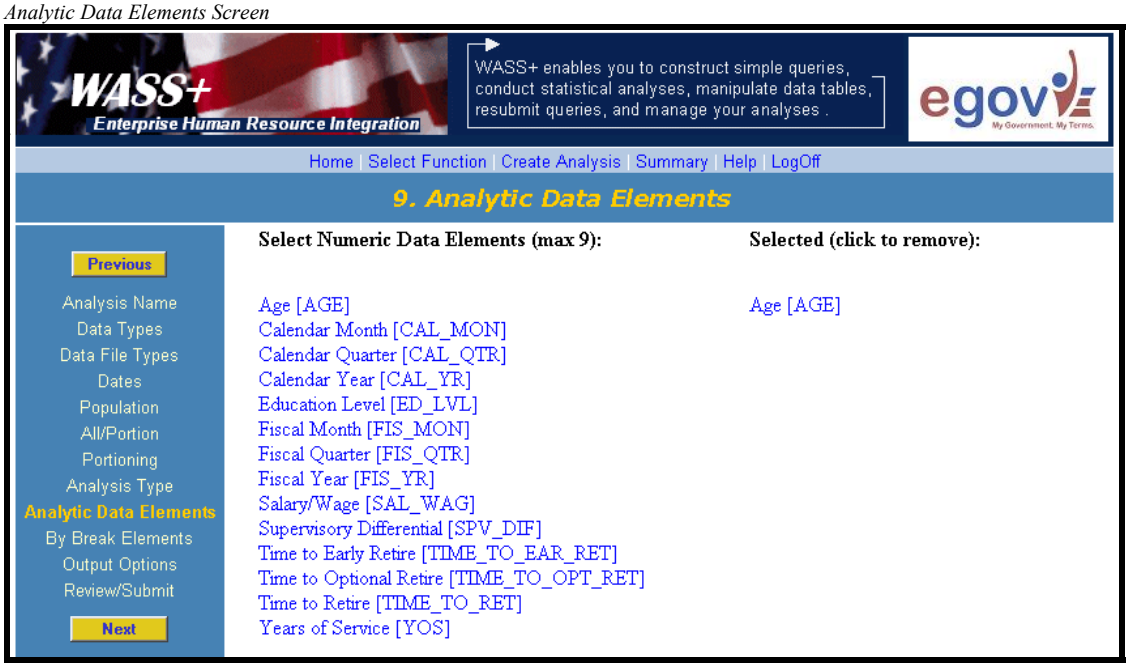
Click ***Previous***. If you selected *Portion*, the *Portioning* screen appears. If you selected *Quick portion*, the *Quick Portion* screen appears. Otherwise, the *All/Portion* screen appears.

Click ***Next***. The *Analytic Data Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.2.1 Select Analytic Data Elements

Analytic Data Elements Screen



Use the *Analytic Data Elements* screen to select the principal data elements you want to analyze. *Averages* output listing contains simple descriptive statistics for numeric data elements.

One average report is created for each data element selected. Note that the analytic data elements must be numeric and that only numeric data elements are presented for selection.

Selecting 1 to 9 Numeric Data Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected list*.

Deselecting Numeric Data Elements

1) Click the selected data element in the Selected list.
2) When deselected, the data element no longer appears in the *Selected* list.

Menu Instructions

Click ***Previous***. The *Analysis Type* screen appears.

Click ***Next***. The *By Break Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.2.2 Select By Break Elements

By Break Elements Screen

Use the *By Break Elements* screen to conduct an analysis *BY* the data elements you want. For example, to analyze the average Age of individuals in the Department of the Air Force Agency by Sex and Pay Grade, select Sex and Pay Grade on this menu.

Omit By Break Elements

If you do not want your results to be broken out *BY* any data element, check the *Omit By Break Elements* box. If you change your mind, uncheck the *Omit By Break Elements* box.

Selecting 1 to 9 By Break Elements

1) Click the by break element in the *Select By Break Elements* list.
2) Once selected, the by break element appears in the *Selected* list.

Deselecting By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Click the ***left arrow*** button to deselect the selected by break element.

Arranging By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Use the ***up*** and ***down arrows*** on the right to position the by break element in the selected list.

As you select *by break elements*, notice that the order of your selection is maintained. *By break elements* may be easily re-sequenced, however, by highlighting the selected b*y break element* to be moved, and clicking the ***up*** *or* ***down arrows*** to the right.

The order (or sequence) of your selections determines how the *BY* break elements will be combined and how the results will be calculated and displayed in your output. In the example above, if Sex is in the first position and Pay Grade is in the second position, Pay Grade will be embedded within each value of Sex. If reversed (i.e., Pay Grade is in the first position and Sex is in the second position), Sex will be embedded within each value of Pay Grade.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

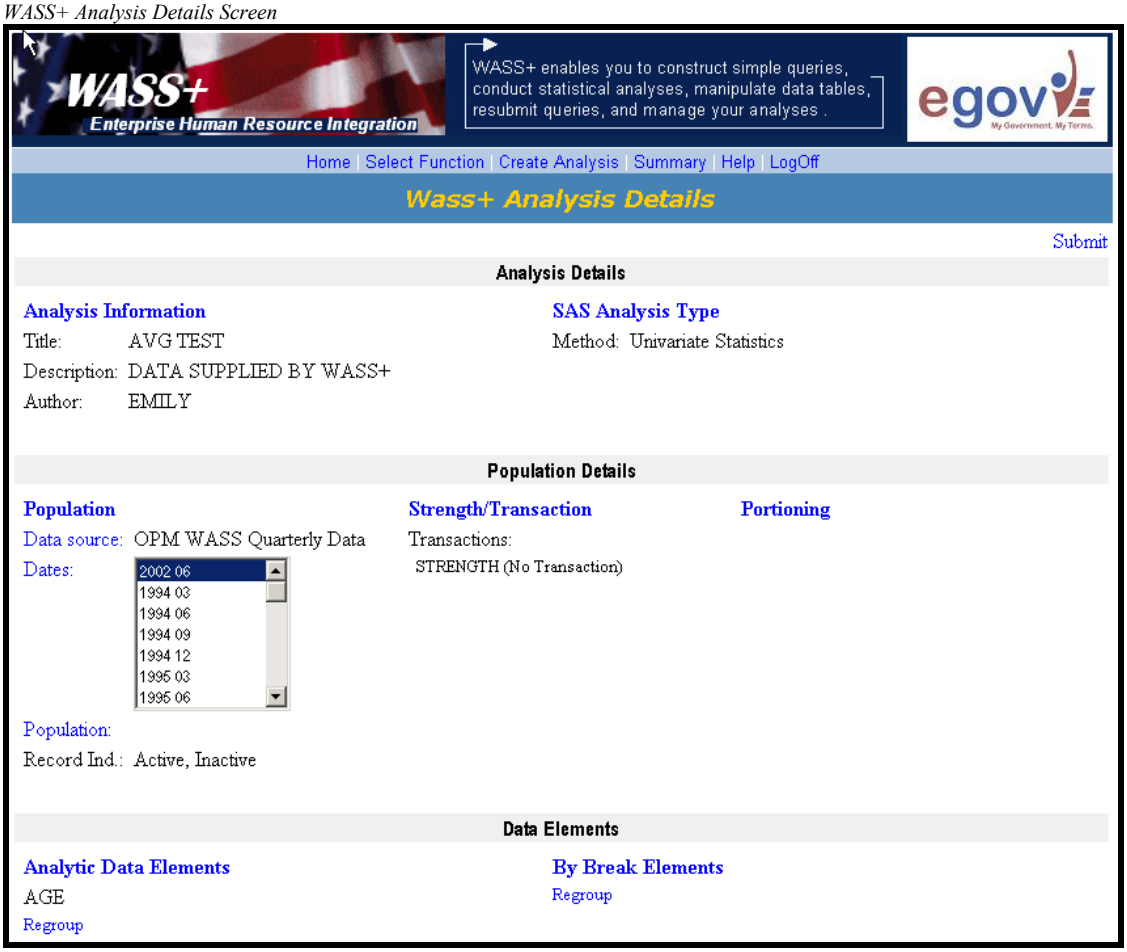
Click ***Previous***. The *Analytic Data Elements* screen appears.

Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.2.3 WASS+ Analysis Details

WASS+ Analysis Details Screen



The next screen to appear is the *WASS+ Analysis Details* screen, displaying all the aspects of your analysis. You may edit any aspect of the analysis by selecting the particular area you want to edit, and you will advance to that particular screen to make changes. Once you make changes, select ***Next***, and you will return to this screen. Once you are satisfied with the selections made for the analysis, click ***Submit*** to advance to the *Review/Submit* screen.

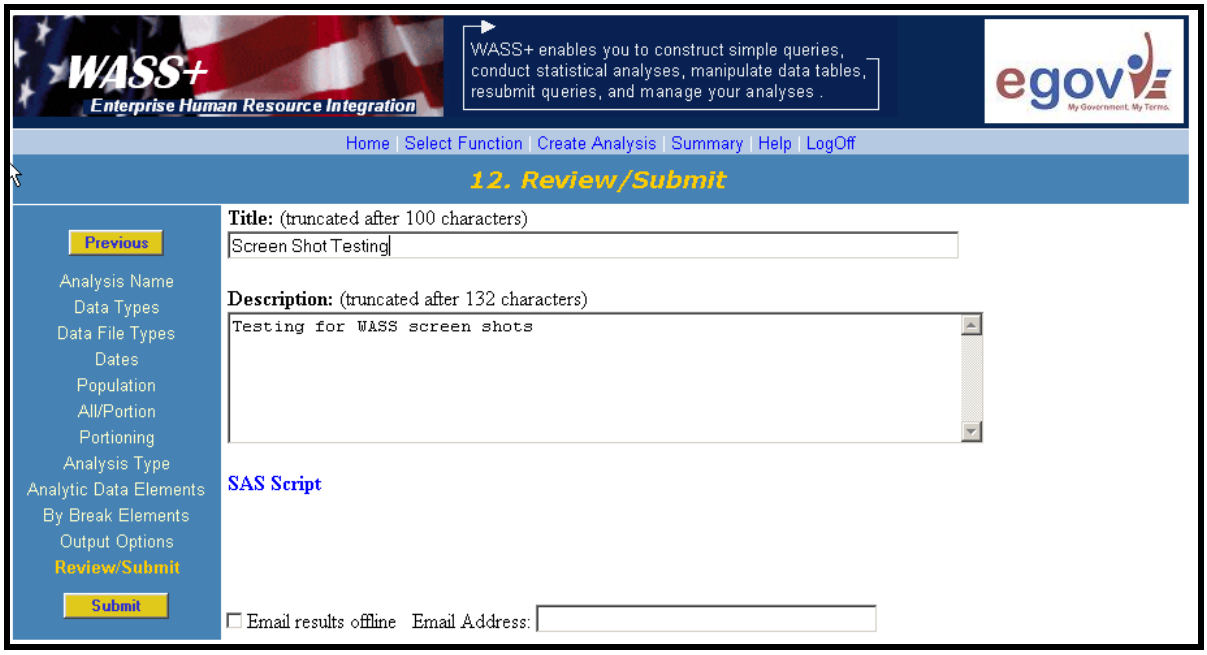
Menu Instructions

Click ***Submit*** to submit your analysis. The *Review/Submit* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

3.7.2.4 Review/Submit

Review/Submit Screen



The next screen to appear is the *Review/Submit* screen, displaying the *Title* and *Description* for your analysis. In addition, you have the option to view the *SAS Script* associated with your analysis and *Email Results* to an *Email Address*.

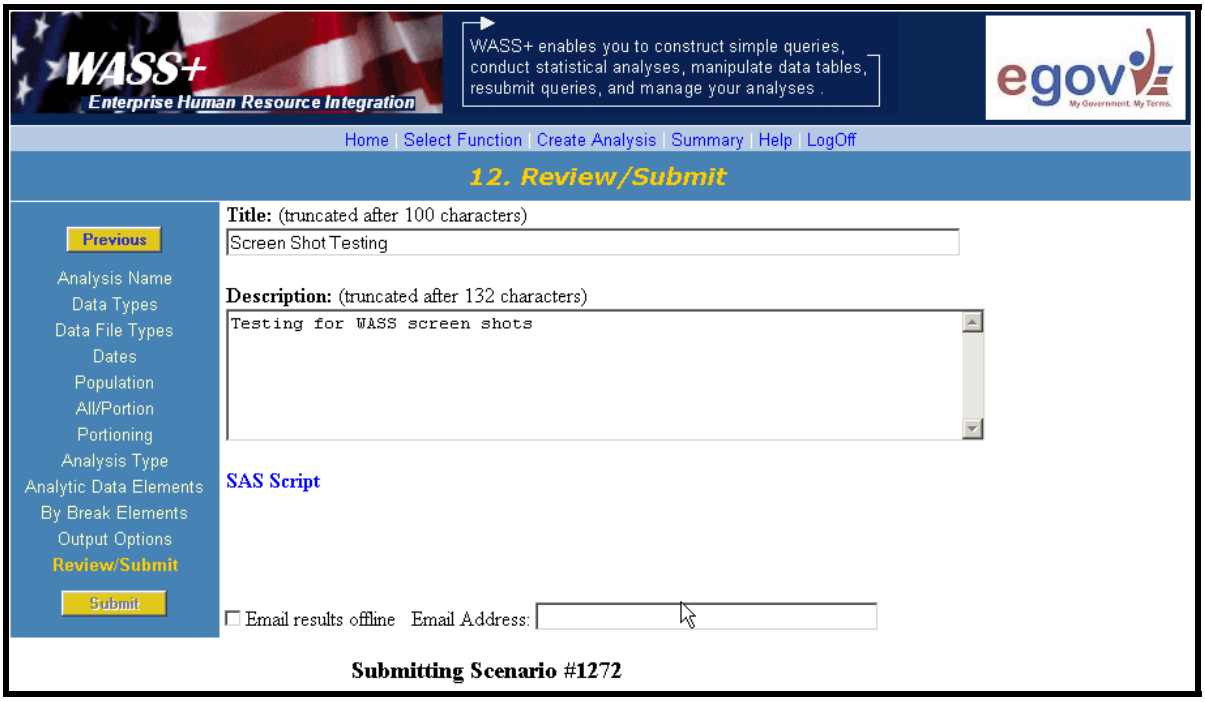
Title
The *Title* field displays the title of your analysis.

Description
The *Description* field provides the description of your analysis.

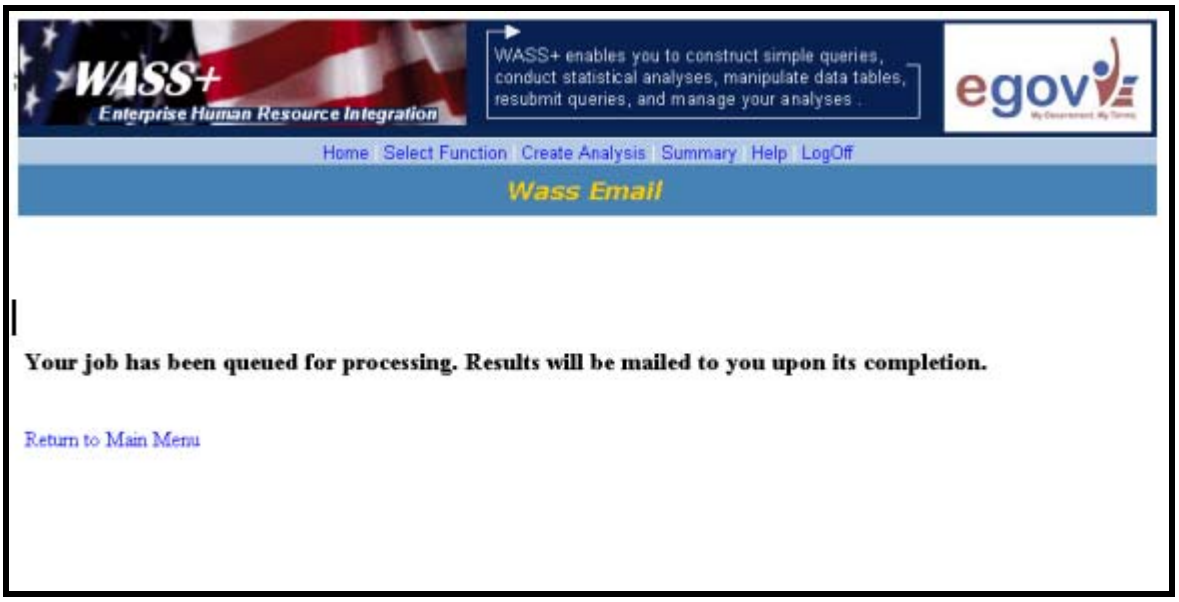
SAS Script
Click ***SAS Script*** to view the SAS script associated with your analysis.

Email Results/ Email Address
Check the box next to *Email Results Offline* if you wish to have email notification of your analysis results. If you click this box, also place your email address in the *Email Address* field.

Review/Submit Screen



The message *Submitting Scenario* will appear on the screen once the analysis has been submitted. Results will be displayed on the screen once the query has completed.

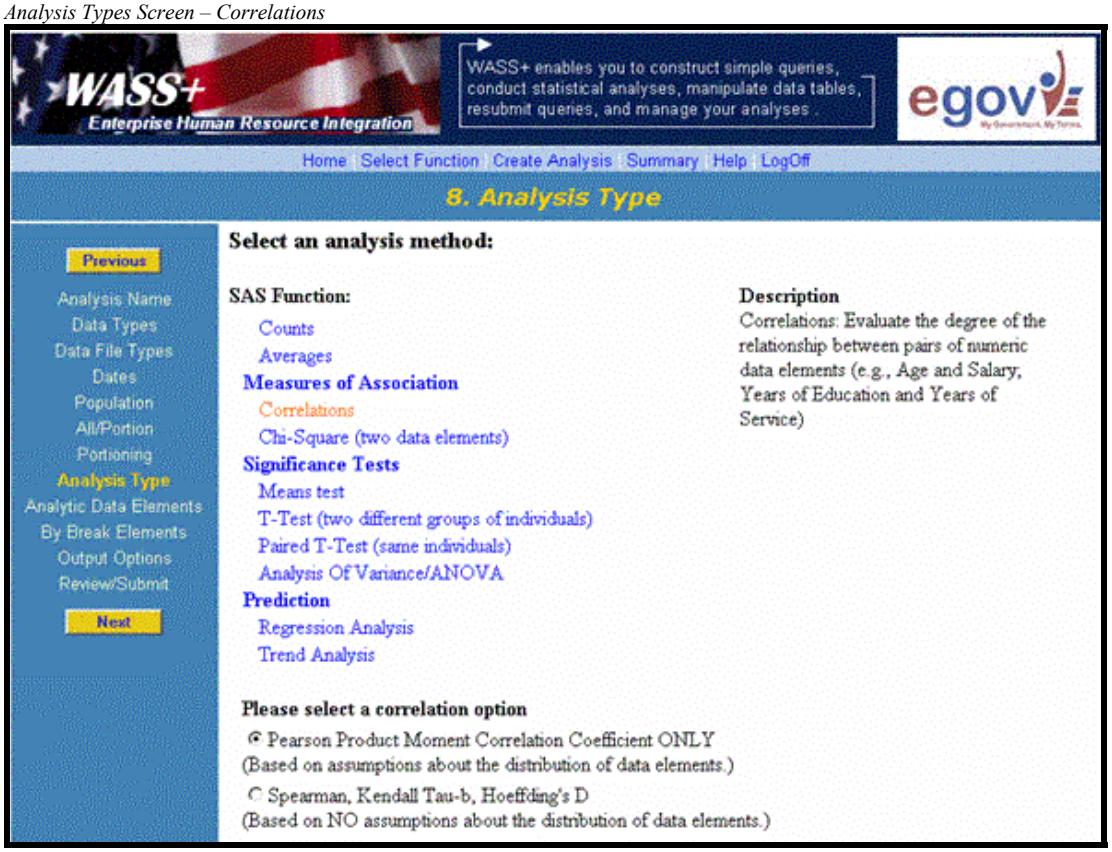


If the *Email results offline* option is chosen, the message *Your job has been queued for processing. Results will be mailed to you upon its completion* will appear on the screen once the analysis has been submitted.

3.7.3 Measures of Association

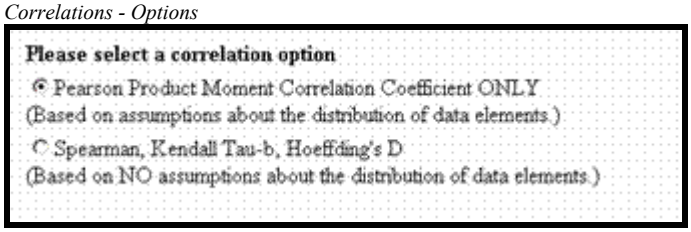
3.7.3.1 Correlations

Analysis Types Screen – Correlations



The C*orrelati*ons procedure determines the direction (positive or negative) and the degree of the relationship between pairs of numeric data elements (e.g., Salary and Education Level). The correlation table displays the correlations for the data elements selected.

Correlations - Options



Use the *Correlations Options* box to evaluate the degree of the relationship between pairs of numeric data elements (e.g., Age and Salary; Education Level and Years of Service).

If you know or can assume with some degree of confidence that your data elements are approximately normal in their distribution, as in a bell shaped curve, you should probably choose the *Pearson Product Moment Correlation Coefficient* option. The exploratory analysis will provide the information needed to evaluate how the data elements are distributed. For example, if you are interested in the correlation between Years of Service and Education Level, before deciding which option to select, check the results of your exploratory analysis for the normal test statistic and the graph of each data element.

If you do not know or cannot make any assumptions about how your data elements are distributed, you should probably choose the *Spearman, Kendall, Tau-b, Hoeffding's D* option. Before selecting this option, consult with a statistician for guidance.

Select Analysis Type
Click ***Correlations*** on the *Analysis Types* screen. Choose your Correlations option.

Menu Instructions

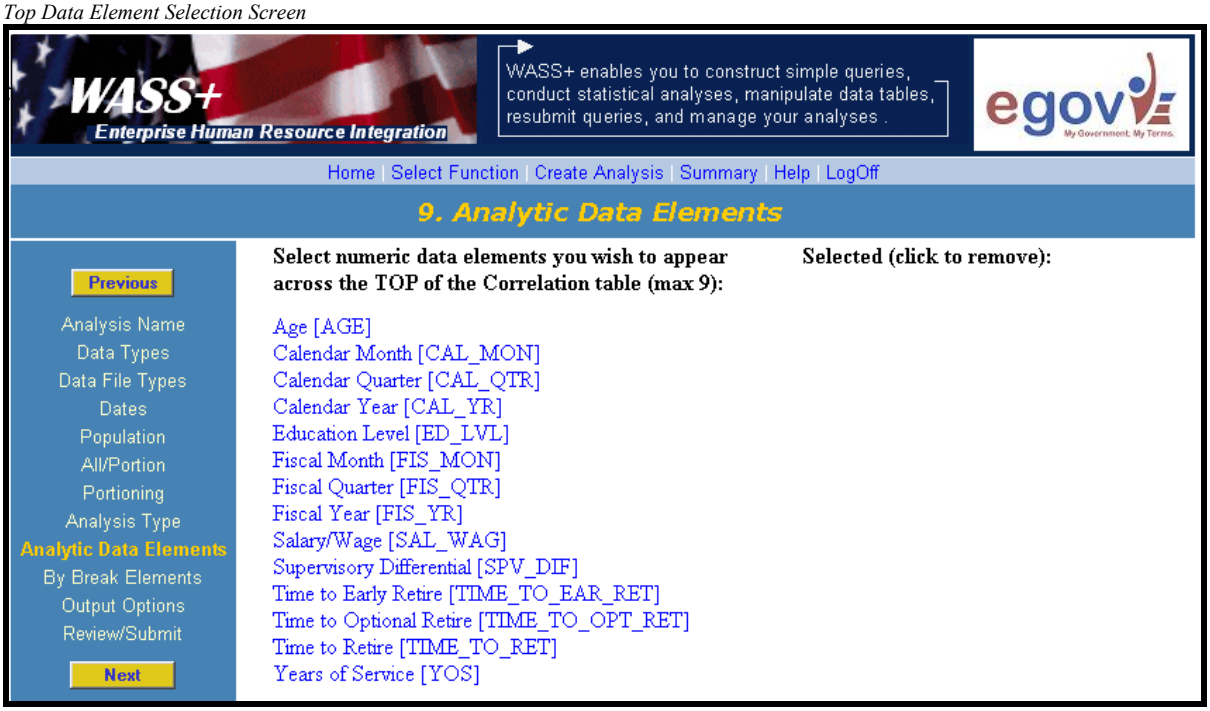
Click ***Previous***. If you selected *Portion*, the *Portioning* screen appears. If you selected *Quick portion*, the *Quick Portion* screen appears. Otherwise, the *All/Portion* screen appears.

Click ***Next***. The *Top Data Element Selection* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.3.1.1 Select Top Data Element

Top Data Element Selection Screen



Use the *Top Data Element Selection* screen to select the data elements that will appear across the *TOP* of your correlation table. In the next menu, you will be asked to select the data elements you want to appear on the SIDE of the correlation table. Note that your *TOP* data elements must be numeric and that only numeric data elements are presented for selection.

You can select up to nine *TOP* data elements. Each will be coupled with your *SIDE* data elements in separate analytic programs. Thus, if you select three *TOP* data elements and three *SIDE* data elements, you will produce nine analytic programs.

Selecting 1 to 9 Numeric Data Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected list*.

Deselecting Numeric Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Menu Instructions

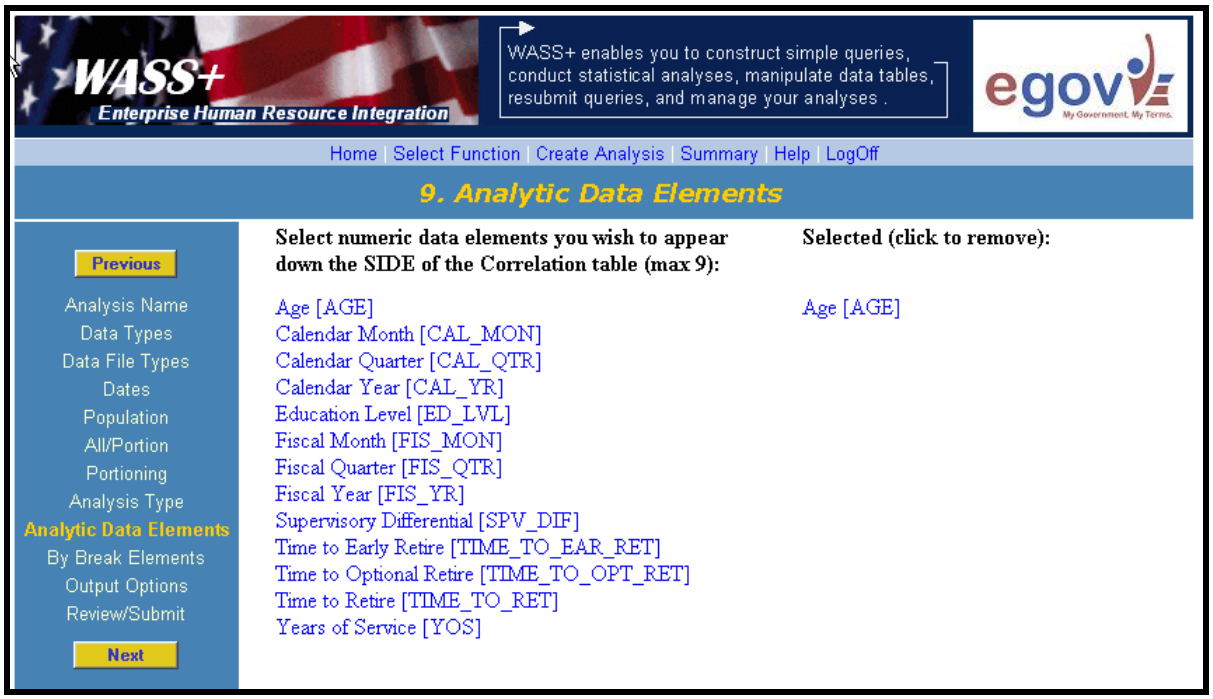
Click ***Previous***. The *Analysis Types* screen appears.

Click ***Next***. The *Side Data Element Selection* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.3.1.2 Select Side Data Element

Side Data Element Selection Screen



Use the *Side Data Element Selection* screen to select data elements that will appear down the *SIDE* of the correlation table. Note that *SIDE* data elements must be numeric and that only numeric data elements are presented for selection.

You may select up to nine *SIDE* data elements. Each will be coupled with your *TOP* data elements in separate analytic programs. Thus, if you select three *SIDE* data elements and three *TOP* data elements, you will produce nine analytic programs.

Selecting 1 to 9 Numeric Data Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected* list.

Deselecting Numeric Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Menu Instructions

Click ***Previous***. The *Top Data Element Selection* screen appears.

Click ***Next***. The *By Break Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.3.1.3 Select By Break Elements

By Break Elements Screen

Use the *By Break Elements screen* to conduct your analysis *BY* the data elements you want. For example, to analyze the correlation of Salary and education level *BY* Sex and Pay Grade, select Sex and Pay Grade on this menu.

Omit By Break Elements
If you do not want your results to be broken out *BY* any data element, check the *Omit By Break Elements* box. If you change your mind, uncheck the *Omit By Break Elements* box.

Select 1 to 9 By Break Elements
1) Click the by break element in the *Select By Break Elements* list.
2) Once selected, the by break element appears in the *Selected* list.

Deselecting By Break Elements
1) Click to highlight a selected by break element in the *Selected* list.
2) Click the ***left arrow*** button to deselect the selected by break element.

Arranging By Break Elements
1) Click to highlight a selected by break element in the *Selected* list.
2) Use the ***up*** and ***down arrows*** on the right to position the by break element in the selected list.

As you select *by break elements*, notice that the order of your selection is maintained. *By break elements* may be easily re-sequenced, however, by highlighting the selected b*y break element* to be moved, and clicking the ***up*** *or* ***down arrows*** to the right.

The order (or sequence) of your selections determines how the *BY* break elements will be combined and how the results will be calculated and displayed in your output. In the example above, if Sex is in the first position and Pay Grade is in the second position, Pay Grade will be embedded within each value of Sex. If reversed (i.e., Pay Grade is in the first position and Sex is in the second position), Sex will be embedded within each value of Pay Grade.

Regroup
Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

Click ***Previous***. The *Side Data Element Selection* screen appears.

Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.3.1.4 WASS+ Analysis Details

WASS+ Analysis Details

The next screen to appear is the *WASS+ Analysis Details* screen, displaying all the aspects of your analysis. You may edit any aspect of the analysis by selecting the particular area you want to edit, and you will advance to that particular screen to make changes. Once you make changes, select ***Next***, and you will return to this screen. Once you are satisfied with the selections made for the analysis, click ***Submit*** to advance to the *Review/Submit* screen.

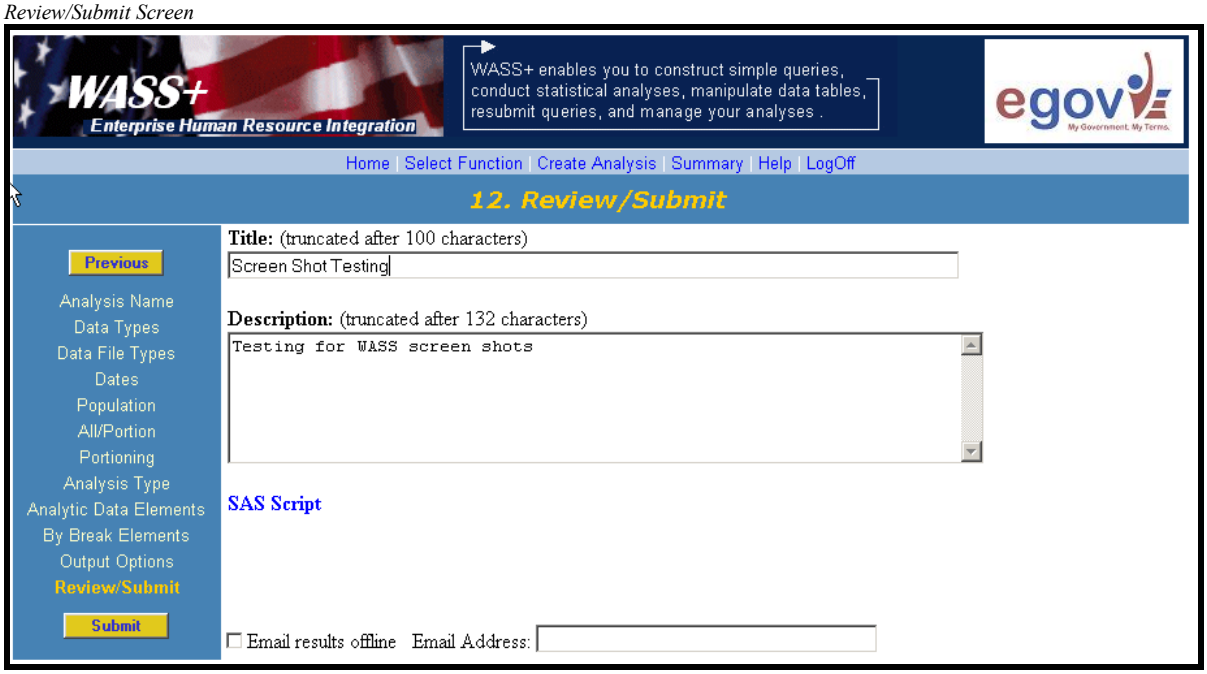
Menu Instructions

Click ***Submit*** to submit your analysis. The *Review/Submit* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

3.7.3.1.5 Review/Submit

Review/Submit Screen



The next screen to appear is the *Review/Submit* screen, displaying the *Title* and *Description* for your analysis. In addition, you have the option to view the *SAS Script* associated with your analysis and *Email Results* to an *Email Address*.

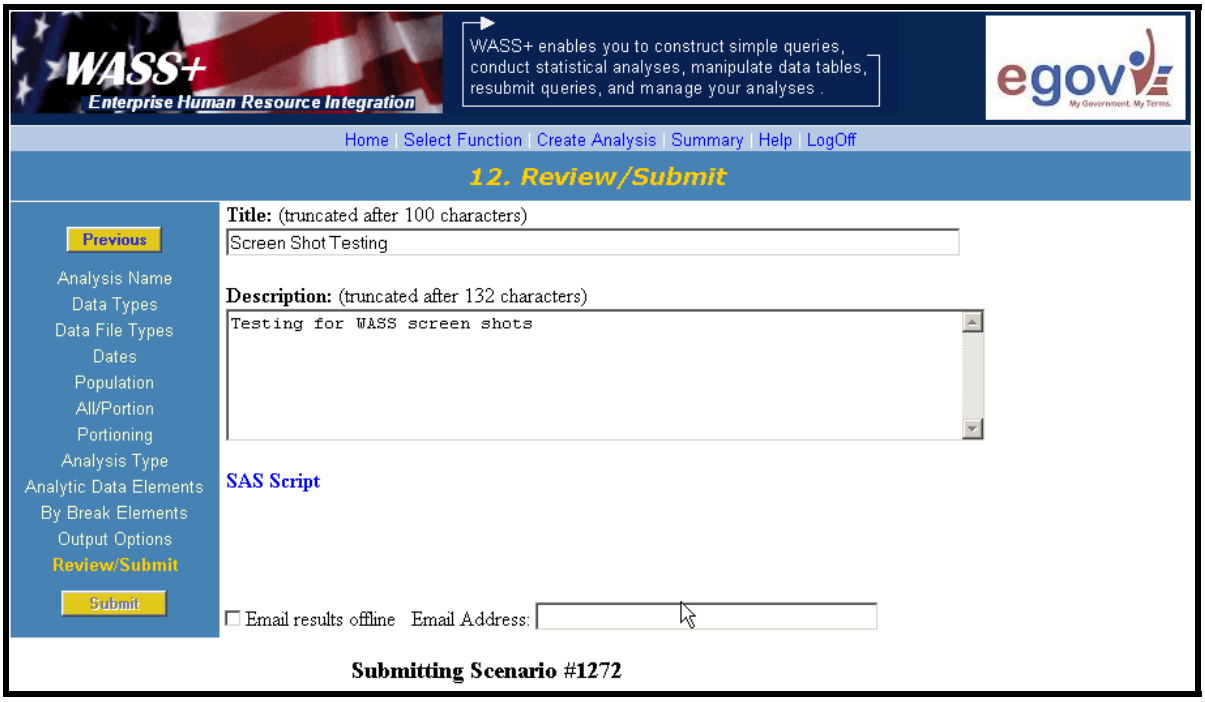
Enter Title
The *Title* field displays the title of your analysis.

Enter Description
The *Description* field provides the description of your analysis.

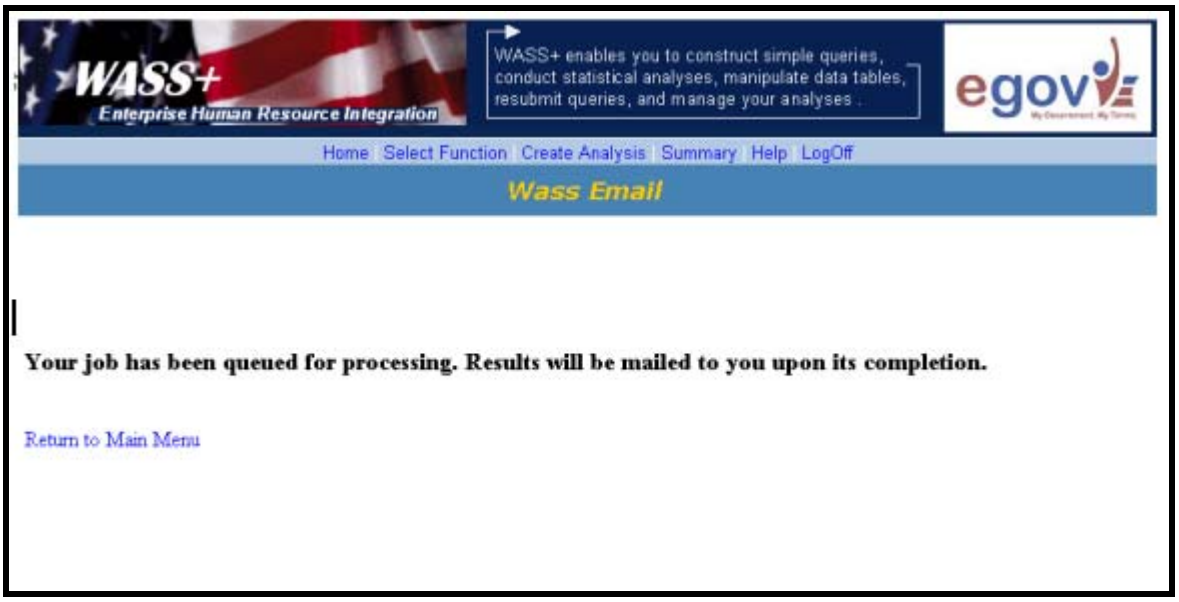
SAS Script
Click ***SAS Script*** to view the SAS script associated with your analysis.

Email Results/ Email Address
Check the box next to *Email Results Offline* if you wish to have email notification of your analysis results. If you click this box, also place your email address in the *Email Address* field.

Review/Submit Screen



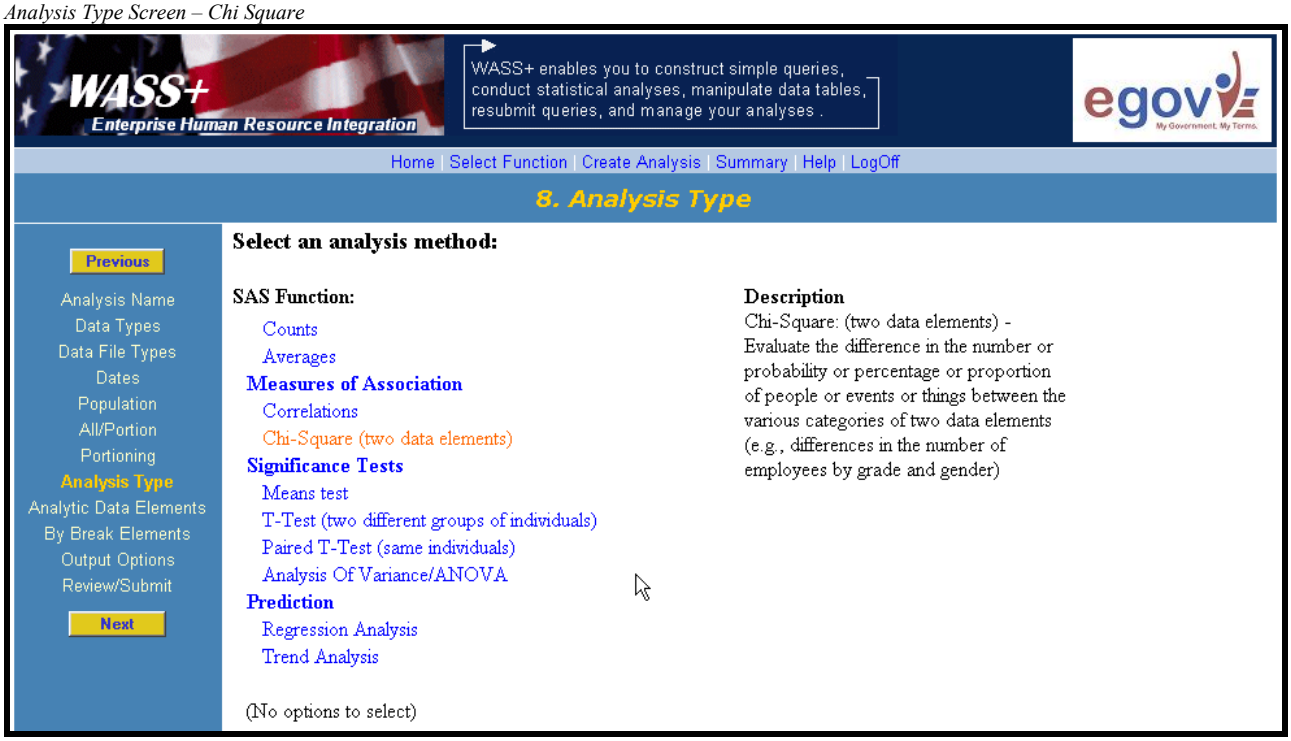
The message *Submitting Scenario* will appear on the screen once the analysis has been submitted. Results will be displayed on the screen once the query has completed.



If the *Email results offline* option is chosen, the message *Your job has been queued for processing. Results will be mailed to you upon its completion* will appear on the screen once the analysis has been submitted.

3.7.3.2 Chi Square

Analysis Type Screen – Chi Square



The C*hi-square* function is used to evaluate the difference in the number or probability or percentage or proportion of people or events or things between various categories of two data elements (e.g., differences in the number of employees by Pay Grade and Sex).

Use the C*hi-square* function to determine whether the differences in the various categories of two data elements are significant (i.e., due to chance or real differences). For example, assume you wanted to know whether there were significant differences in the number of employees between the various Race or National Origin groups and Pay Grade levels. The C*hi-square* function would produce a table of the total number of employees in each Race or National Origin group and Pay Grade combination along with the analysis results. The table would display Race or National Origin along one side and Pay Grade along the other.

Select Analysis Type

Click ***Chi-square*** on the *Analysis Type* screen.

Menu Instructions

Click ***Previous***. If you selected *Portion*, the *Portioning* screen appears. If you selected *Quick portion*, the *Quick Portion* screen appears. Otherwise, the *All/Portion* screen appears.

Click ***Next***. *Top Data Element Selection* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.3.2.1 Select Top Data Element

Top Data Element Selection Screen

Use the *Top Data Element Selection* screen to select the data elements you want to appear across the *TOP* of the chi-square table. In the next menu, you will select the data elements you want to appear on the *SIDE* of the chi-square table.

You may select up to nine TOP data elements. Each will be coupled with your *SIDE* data elements in separate analytic programs. Thus, if you select three *TOP* data elements and three *SIDE* data elements, you will produce nine analytic programs.

Selecting 1 to 9 Data Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected* list.

Deselecting Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

Click ***Previous***. The *Analysis Type* screen appears.

Click ***Next***. The *Side Data Element Selection* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.3.2.2 Select Side Data Element

Side Data Element Selection Screen

Use the *Side Data Element Selection* screen to select the data elements you want to appear down the *SIDE* of the chi-square table.

You may select up to nine *SIDE* data elements. Each will be coupled with your *TOP* data elements in separate analytic programs. Thus, if you select three *SIDE* data elements and three *TOP* data elements, you will produce nine analytic programs.

Selecting 1 to 9 Data Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected* list.

Deselecting Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

Click ***Previous***. The *Top Data Element Selection* screen appears.

Click ***Next***. The *By-Break Element Selection* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.3.2.3 Select By Break Elements

By Break Elements Screen

Use the *By Break Elements* screen to conduct your analysis *BY* specific data elements. For example, to analyze the differences between the number of employees between the various Race or National Origin groups and Pay Grade levels *BY* Sex, select Sex on this menu.

Omit By Break Elements

If you do not want your results to be broken out *BY* any data element, check the *Omit By Break Elements* box. If you change your mind, uncheck the *Omit By Break Elements* box.

Selecting 1 to 9 By Break Elements

1) Click the by break element in the *Select By Break Elements* list.
2) Once selected, the by break element appears in the *Selected* list.

Deselecting By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Click the ***left arrow*** button to deselect the selected by break element.

Arranging By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Use the ***up*** and ***down arrows*** on the right to position the by break element in the selected list.

As you select *by break elements*, notice that the order of your selection is maintained. *By break elements* may be easily re-sequenced, however, by highlighting the selected b*y break element* to be moved, and clicking the ***up*** *or* ***down arrows*** to the right.

The order (or sequence) of your selections determines how the *BY* break elements will be combined and how the results will be calculated and displayed in your output. In the example above, if Sex is in the first position and Pay Grade is in the second position, Pay Grade will be embedded within each value of Sex. If reversed (i.e., Pay Grade is in the first position and Sex is in the second position), Sex will be embedded within each value of Pay Grade.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

Click ***Previous***. *Side Data Element Selection* screen appears.

Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.3.2.4 WASS+ Analysis Details

WASS+ Analysis Details Screen

The next screen to appear is the *WASS+ Analysis Details* screen, displaying all the aspects of your analysis. You may edit any aspect of the analysis by selecting the particular area you want to edit, and you will advance to that particular screen to make changes. Once you make changes, select Next, and you will return to this screen. Once you are satisfied with the selections made for the analysis, click ***Submit*** to advance to the *Review/Submit* screen.

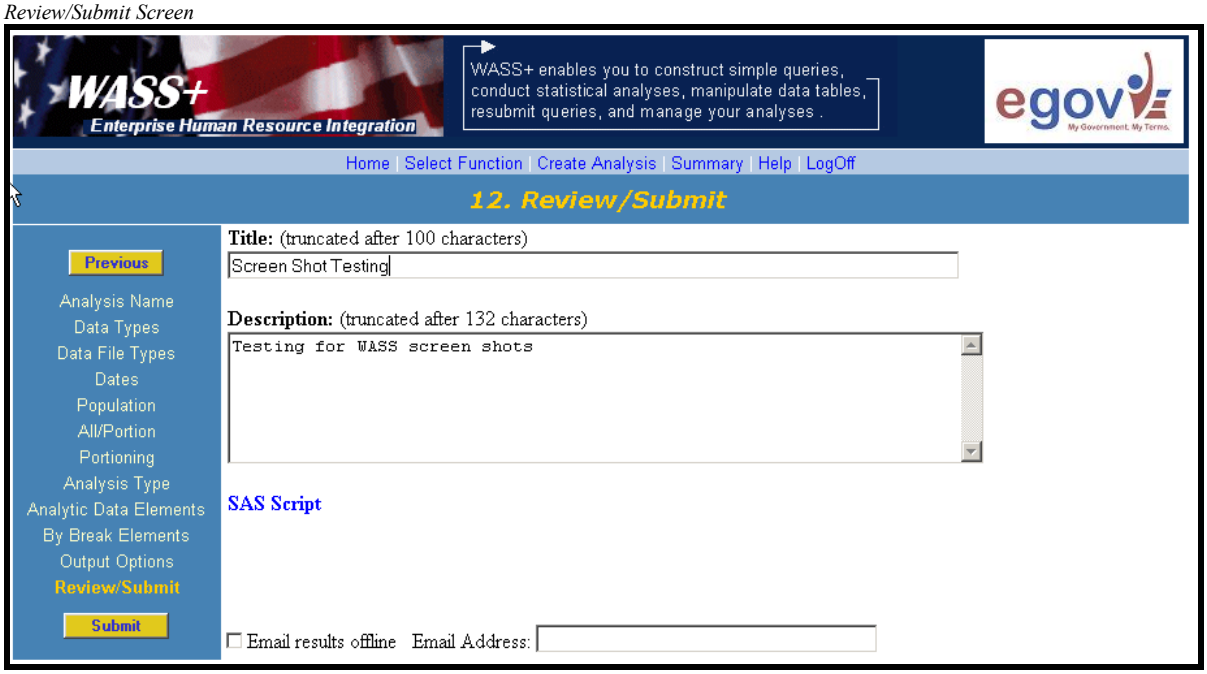
Menu Instructions

Click ***Submit*** to submit your analysis. The *Review/Submit* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

3.7.3.2.5 Review/Submit

Review/Submit Screen



The next screen to appear is the *Review/Submit* screen, displaying the *Title* and *Description* for your analysis. In addition, you have the option to view the *SAS Script* associated with your analysis and *Email Results* to an *Email Address*.

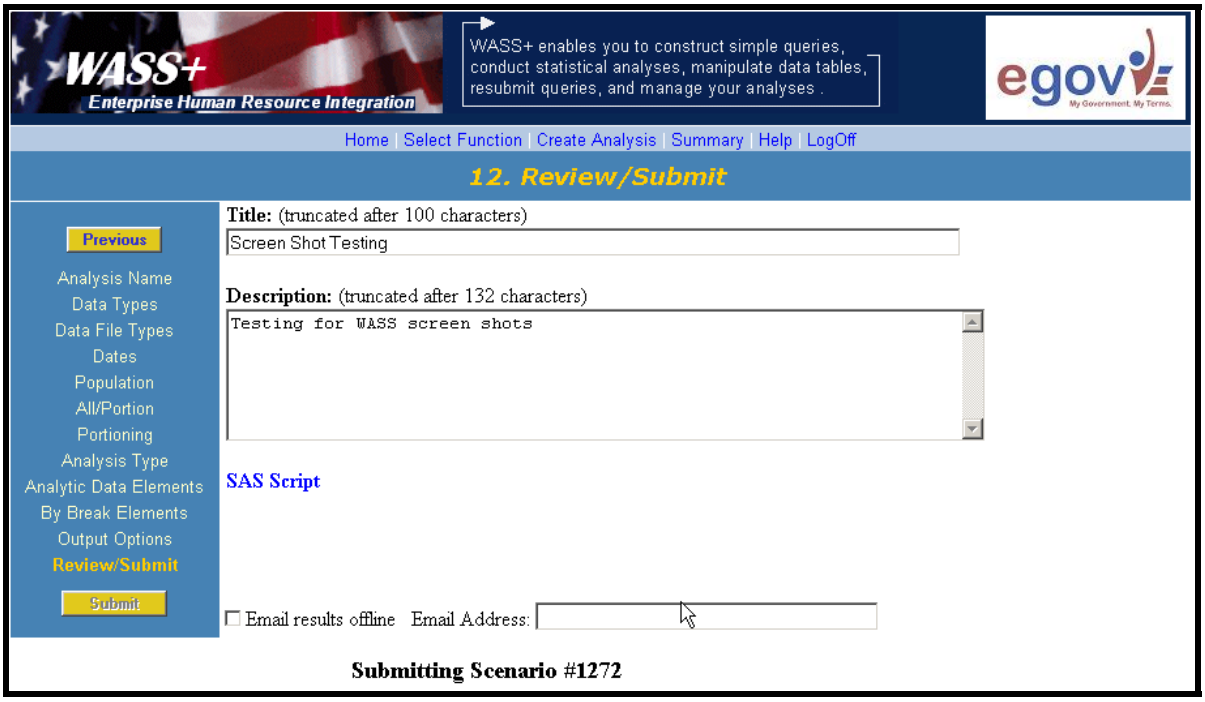
Enter Title
The *Title* field displays the title of your analysis.

Enter Description
The *Description* field provides the description of your analysis.

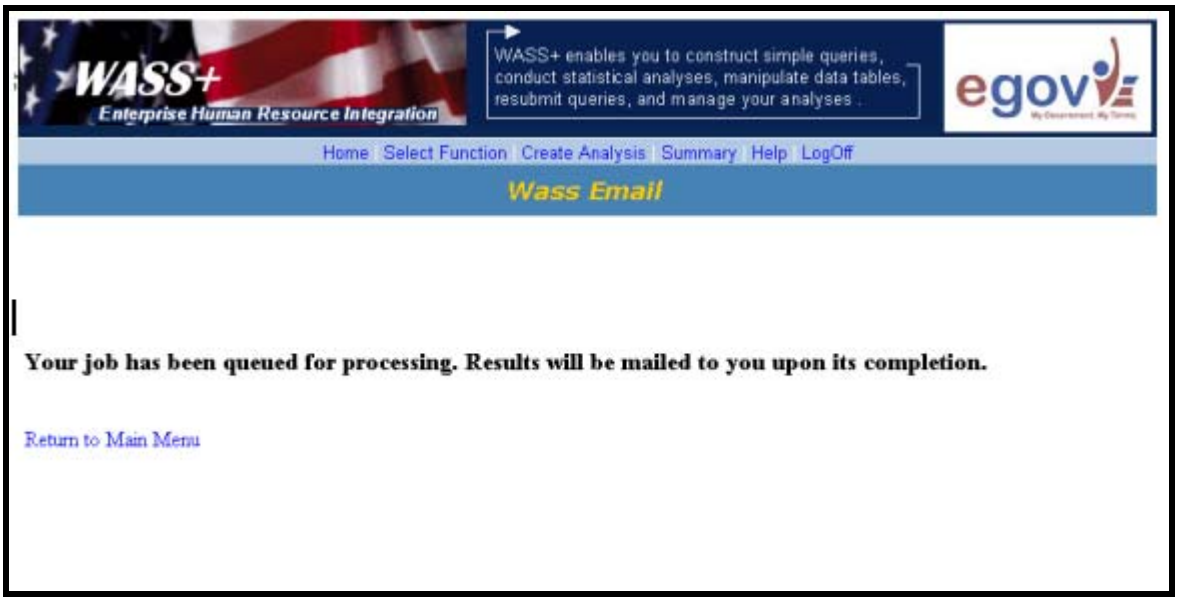
SAS Script
Click ***SAS Script*** to view the SAS script associated with your analysis.

Email Results/ Email Address
Check the box next to *Email Results Offline* if you wish to have email notification of your analysis results. If you click this box, also place your email address in the *Email Address* field.

Review/Submit Screen



The message *Submitting Scenario* will appear on the screen once the analysis has been submitted. Results will be displayed on the screen once the query has completed.

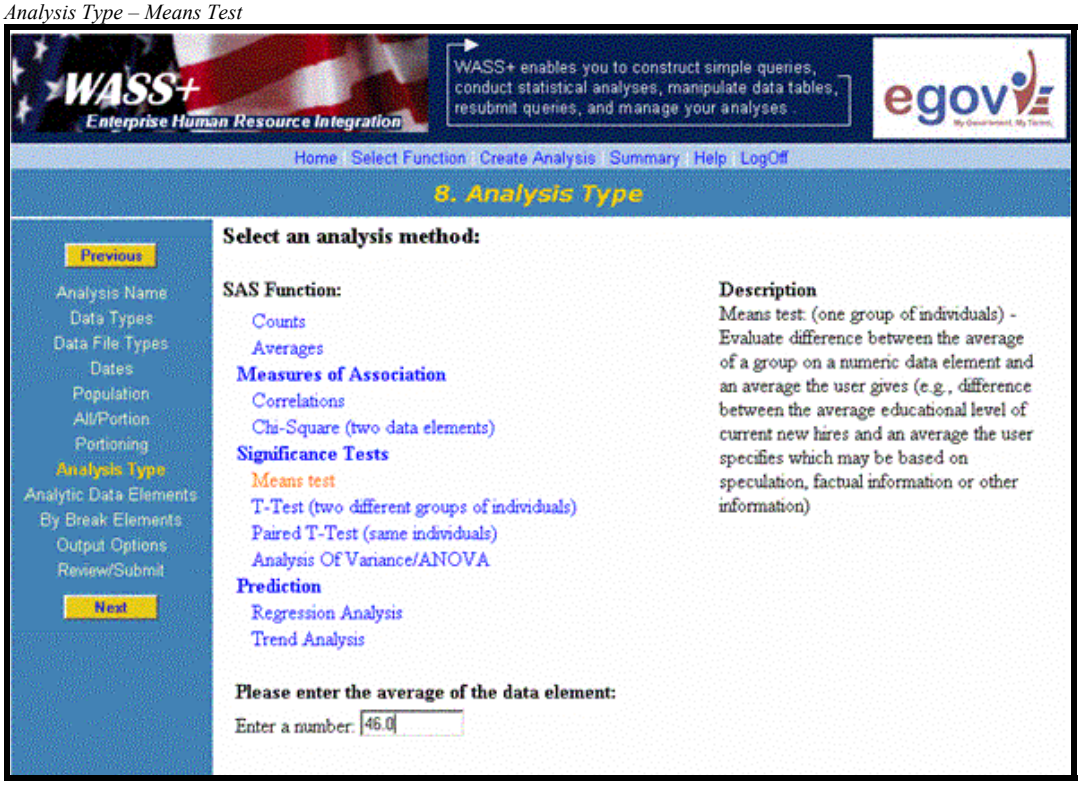


If the *Email results offline* option is chosen, the message *Your job has been queued for processing. Results will be mailed to you upon its completion* will appear on the screen once the analysis has been submitted.

3.7.4 Significance Tests

3.7.4.1 Means Test

Analysis Type – Means Test



Use the *Means Test* to evaluate the difference between the average of a group on a numeric data element and an average you give (e.g., the difference between the average Age of current new hires and an average you specify which may be based on speculation, factual information, or other information). *Means Test* will typically be used on a sample of data, for example when survey data is loaded into the WASS+ system.

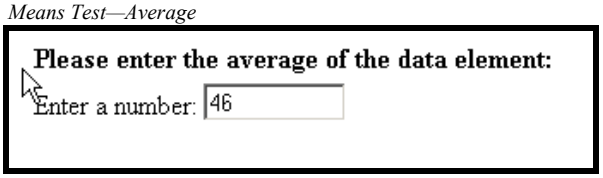
Use the M*eans Test* procedure to test the average of the data element you choose *(Analytic Data Elements* screen*)* against the average you enter for the *Means Test*. The entered average may be one of three types:

- A speculated average (i.e., a value you or others think it is or should be).
- An average based on factual information that you have and want to compare against, such as an average based on data from 10 years ago.
- An average you want to use as a summary figure (e.g., a whole number like 3.0 rather than the actual average which may be 3.5).

For example, you may know the average Years of Service for the current workforce (for example, 12 years) and you think it is declining because you know that ten years ago the average was 15. You select the M*eans Test* procedure to determine if the difference between the two averages (12 versus 15) is significant (i.e., a chance occurrence or due to real differences).

The *Means Test* procedure will not establish the average you enter for the *Means Test Average*. The procedure assumes that you already know what it is. If you do not, you may be able to obtain it by selecting the *Averages* option on the *Analysis Type* screen.

Means Test—Average



The number you enter on the *Means Test Average* box will be the *average* the *Means Test* procedure will use to compare to the average of the data element you select for analysis. Make sure the number you enter is in an acceptable format as described in these examples.

- Examples of acceptable entries: 1 or .533 or 1.2 or -24 or 100000
- Examples of unacceptable entries: 1/10 or 100,000

The value entered must be a numeric whole or mixed number, no more than 16 digits, with no more than 12 digits to either the left or right of the decimal point. A negative sign (-) and a decimal point (.) are the only two special characters permitted.

Select Analysis Type

Click ***Means Test*** on the *Analysis Type* screen.

Menu Instructions

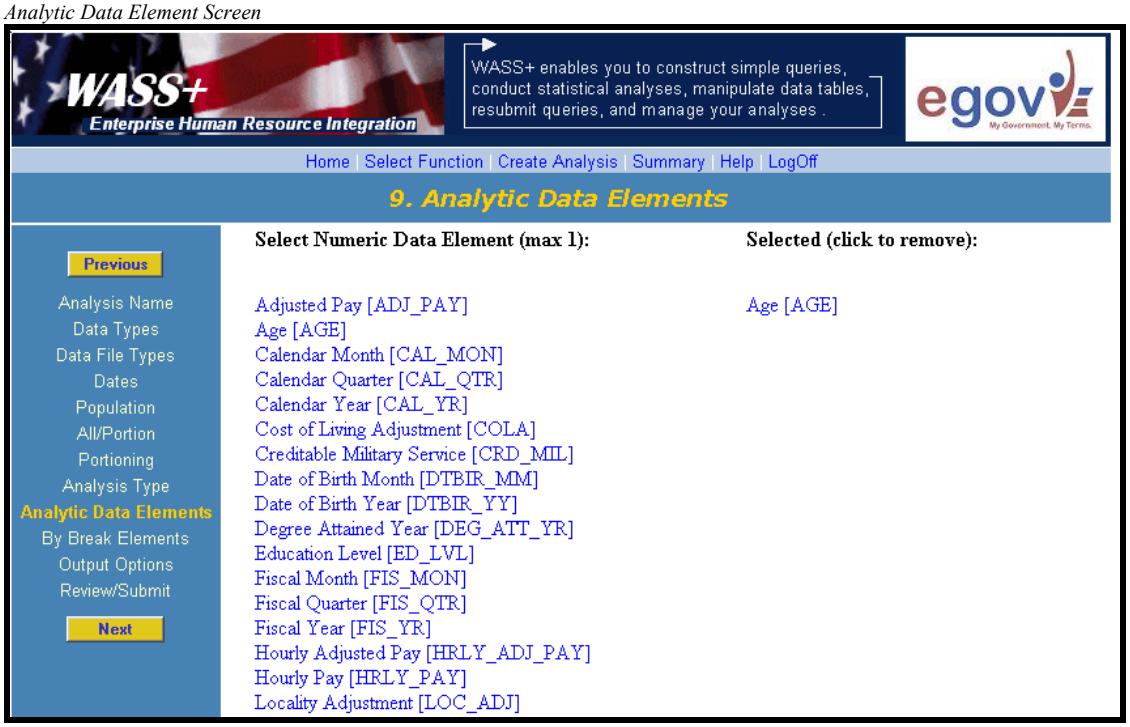
Click ***Previous***. If you selected *Portion*, the *Portioning* screen appears. If you selected *Quick portion*, the *Quick Portion* screen appears. Otherwise, the *All/Portion* screen appears.

Click ***Next***. The *Analytic Data Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.1.1 Select Data Element

Analytic Data Element Screen



Select one data element from the list of numeric data elements provided by the application. Note that the analytic data elements must be numeric and that only numeric data elements are presented for selection.

Selecting 1 Numeric Data Elements

1) Click the data element in the *Select Numeric Data Elements* list.
2) Once selected, the data element appears in the *Selected list*.

Deselecting Numeric Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Menu Instructions

Click ***Previous***. The *Analysis Type* screen appears.

Click ***Next***. The *By Break Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.1.2 Select By Break Elements

By Break Elements Screen

Use the *By Break Elements* screen to conduct your analysis *BY* the specified data elements. For example, to analyze the average Years of Service for the current workforce by Sex and Pay Grade, select Sex and Pay Grade on this menu.

You may select up to nine *by break elements* from the list of elements provided by the application.

Omit By Break Elements

If you do not want your results to be broken out *BY* any data element, check the *Omit By Break Elements* box. If you change your mind, uncheck the *Omit By Break Elements* box.

Selecting 1 to 9 By Break Elements

1) Click the by break element in the *Select By Break Elements* list.
2) Once selected, the by break element appears in the *Selected* list.

Deselecting By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Click the ***left arrow*** button to deselect the selected by break element.

Arranging By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Use the ***up*** and ***down arrows*** on the right to position the by break element in the selected list.

As you select *by break elements*, notice that the order of your selection is maintained. *By break elements* may be easily re-sequenced, however, by highlighting the selected b*y break element* to be moved, and clicking the ***up*** or ***down arrows*** to the right.

The order (or sequence) of your selections determines how the *BY* break elements will be combined and how the results will be calculated and displayed in your output. In the example above, if Sex is in the first position and Pay Grade is in the second position, Pay Grade will be embedded within each value of Sex. If reversed (i.e., Pay Grade is in the first position and Sex is in the second position), Sex will be embedded within each value of Pay Grade.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

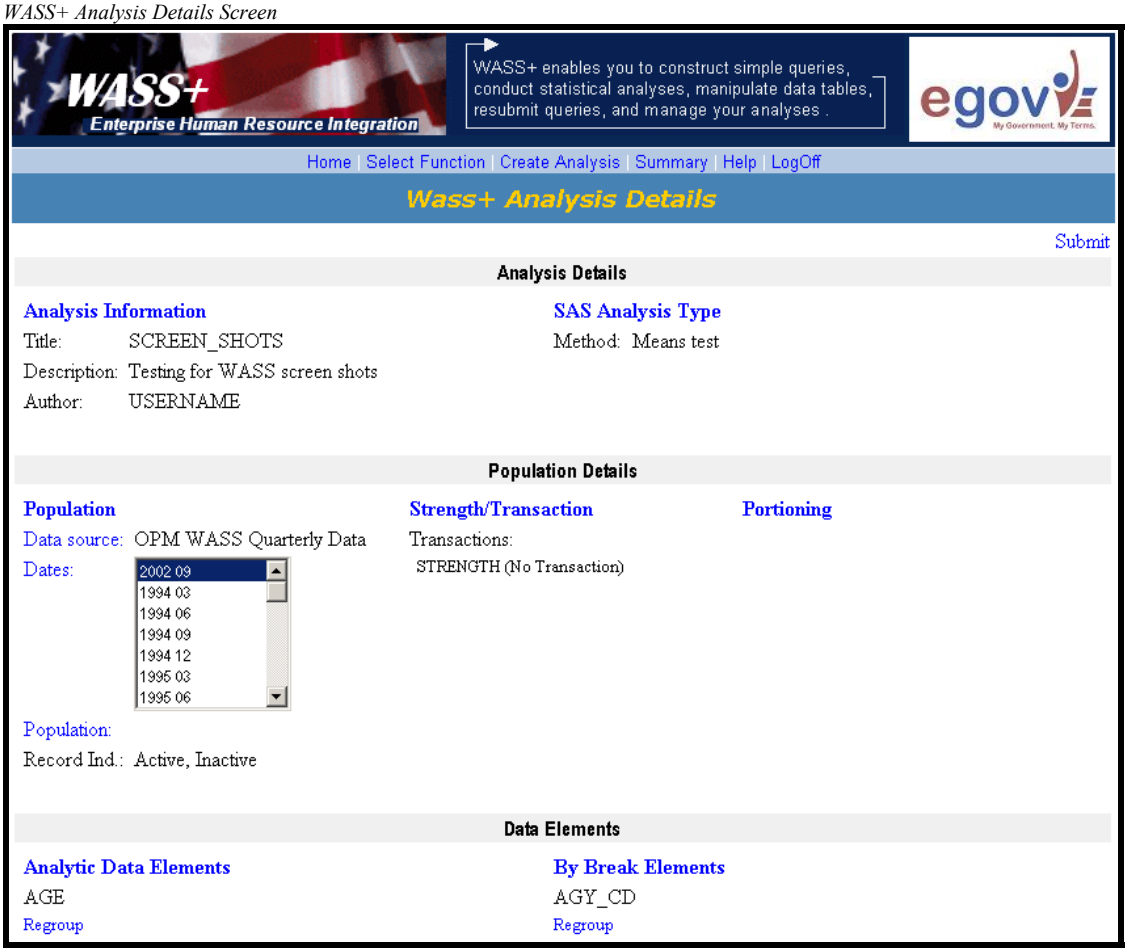
Click ***Previous***. The *Analytic Data Element* screen appears.

Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.1.3 WASS+ Analysis Details

WASS+ Analysis Details Screen



The next screen to appear is the *WASS+ Analysis Details* screen, displaying all the aspects of your analysis. You may edit any aspect of the analysis by selecting the particular area you want to edit, and you will advance to that particular screen to make changes. Once you make changes, select ***Next***, and you will return to this screen. Once you are satisfied with the selections made for the analysis, select ***Submit*** to advance to the *Review/Submit* screen.

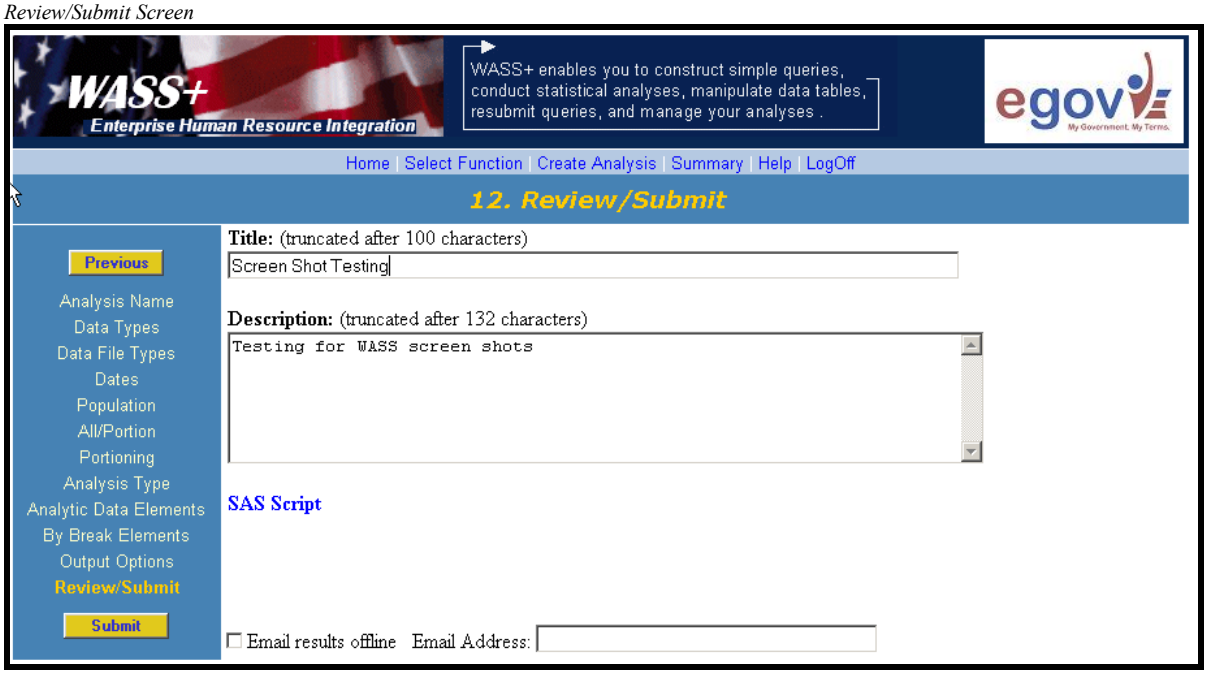
Menu Instructions

Click ***Submit*** to submit your analysis. The *Review/Submit* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.1.4 Review/Submit

Review/Submit Screen



The next screen to appear is the *Review/Submit* screen, displaying the *Title* and *Description* for your analysis. In addition, you have the option to view the *SAS Script* associated with your analysis and *Email Results* to an *Email Address*.

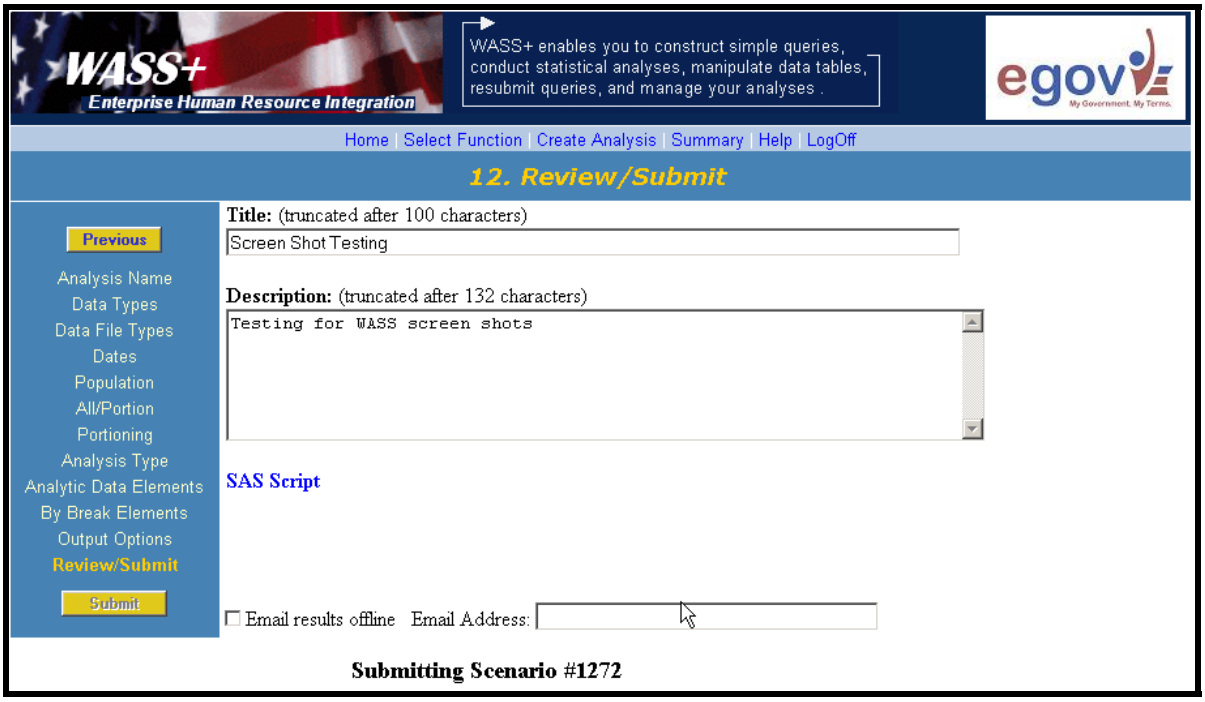
Title
The *Title* field displays the title of your analysis.

Description
The *Description* field provides the description of your analysis.

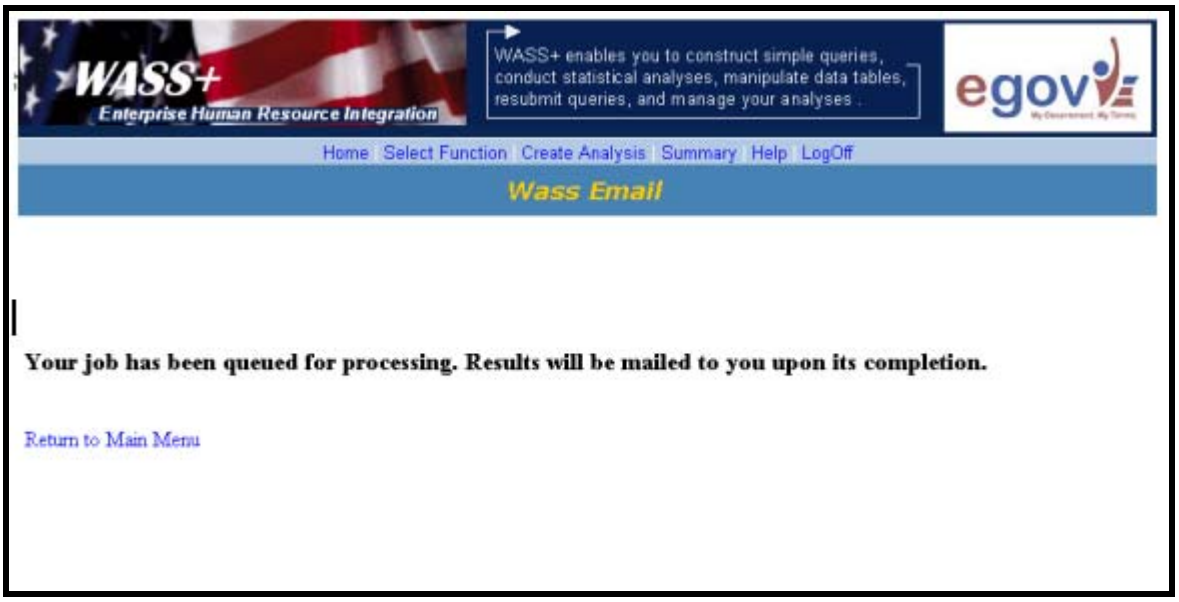
SAS Script
Click ***SAS Script*** to view the SAS script associated with your analysis.

Email Results/ Email Address
Check the box next to *Email Results Offline* if you wish to have email notification of your analysis results. If you click this box, also place your email address in the *Email Address* field.

Review/Submit Screen



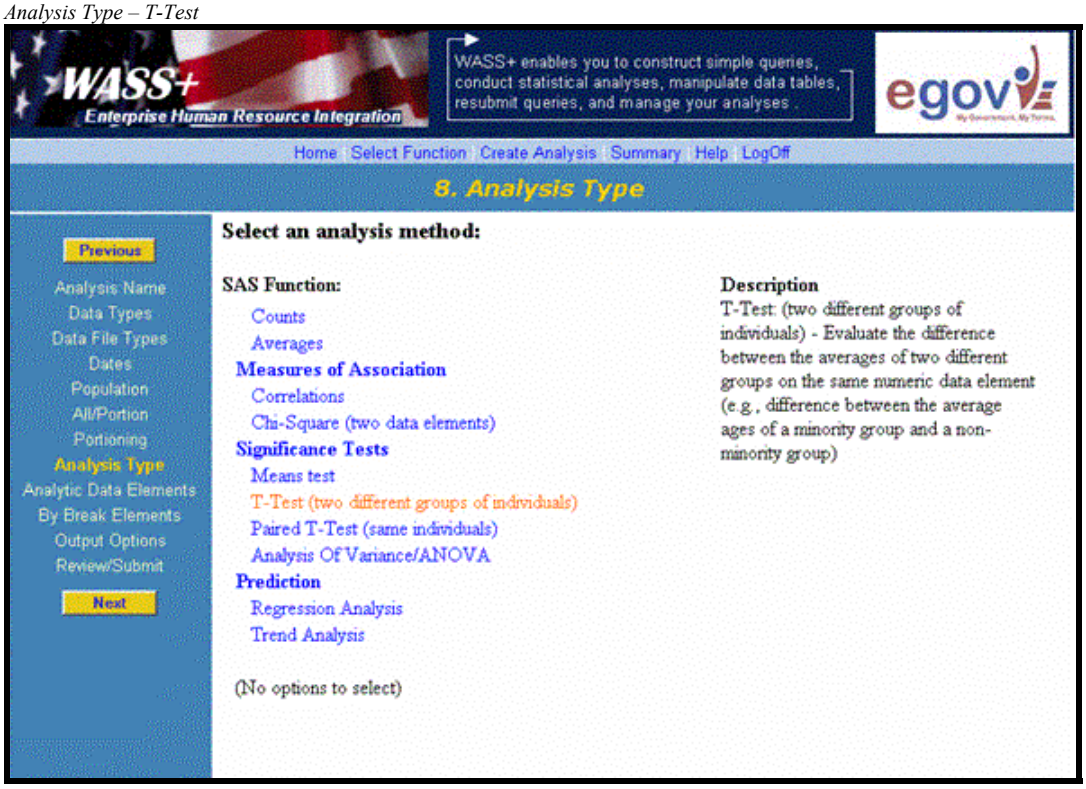
The message *Submitting Scenario* will appear on the screen once the analysis has been submitted. Results will be displayed on the screen once the query has completed.



If the *Email results offline* option is chosen, the message *Your job has been queued for processing. Results will be mailed to you upon its completion* will appear on the screen once the analysis has been submitted.

3.7.4.2 T-Test

Analysis Type – T-Test



The *T-Test* procedure is used to evaluate the difference between the averages of two different groups on the same numeric data element (e.g., the difference between the average Ages of a minority group and a non-minority group). *T-Test* will typically be used on a sample of data, for example when survey data is loaded into the WASS+ system.

Use the *T-Test* procedure to evaluate the difference between the averages of two different groups for a single numeric data element you choose on the *Analytic Data Elements* screen. For example, if you select Years of Service on the *Analytic Data Elements* screen, the application compares the averages for Years of Service between your two groups to determine if the difference is significant (i.e., a chance occurrence or due to real differences). The two groups are defined by the selection on the *T-Test Data Element Selection* screen.

Select Analysis Type
Click ***T-Test*** on the *Analysis Type* screen.

Menu Instructions

Click ***Previous***. If you selected *Portion*, the *Portioning* screen appears. If you selected *Quick portion*, the *Quick Portion* screen appears. Otherwise, the *All/Portion* screen appears.

Click ***Next***. The *T-Test Data Element Selection* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.2.1 Select Data Element

T-Test Data Element Selection Screen

Use the *T-Test Data Element Selection* screen to select the group data elements to be used for analysis. For example, to analyze the difference in average Years of Service for those individuals in two Occupational Series groups, select Occupational Series on this menu. The two groups analyzed may be generated by multiple data elements. For example, you may want to compare Male employees in Grade 9 and Female employees in Grade 10. In this case you would select both Sex and Pay Grade on the *T-Test Data Element Selection* screen.

You may select up to nine group data elements from the list of data elements provided by WASS+.

Selecting 1 to 9 Data Elements

1) Click the data element in the *Select Analytic Data Elements* list.
2) Once selected, the data element appears in the *Selected* list.

Deselecting Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Menu Instructions

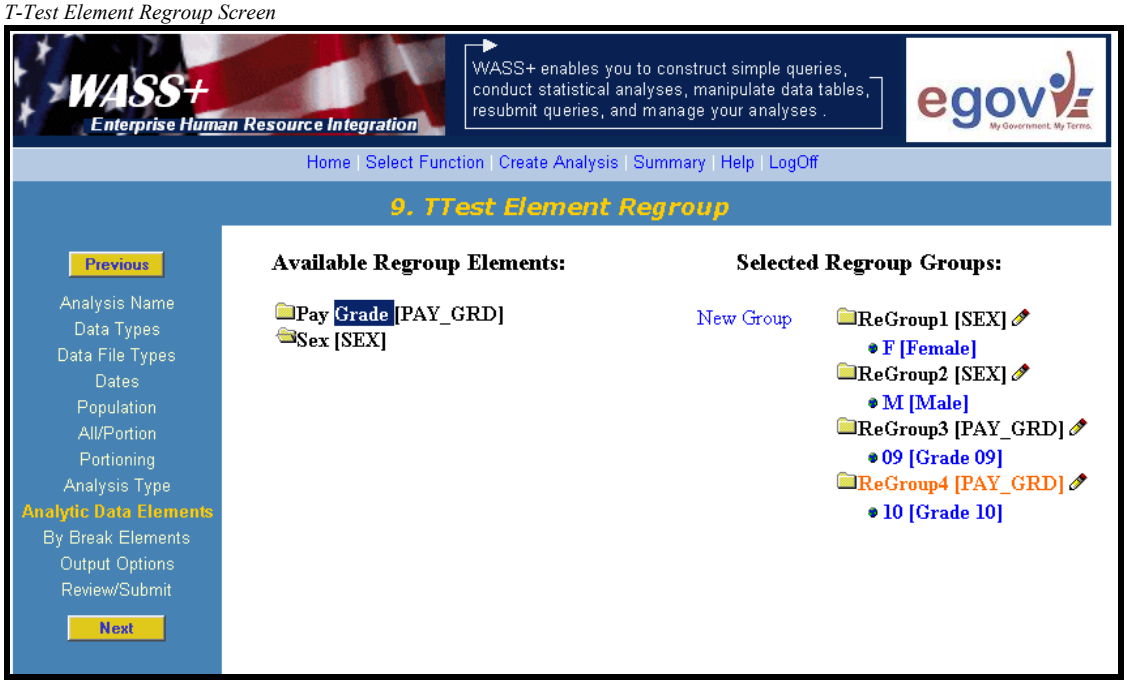
Click ***Previous***. The *Analysis Type* screen appears.

Click ***Next***. The *T-Test Element Regroup* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.2.2 T-Test Element Regroup

T-Test Element Regroup Screen



Use the *T-Test Element Regroup* screen to subset the data codes from each selected data element into two groups - a first group and a second group. [NOTE: If any data element that you selected on the *T-Test Data Element Selection* screen is not portionable, it will not appear in this menu]. For the above example, assign Male to the first Sex group and Female to the second Sex group, then Grade 9 to the first Pay Grade group and Grade 10 to the second Pay Grade group. In this example, a total of four folders will appear, two folders for each data element. The values within the first folder for each data element will define the first group and the values within the second folder for each data element will define the second group.

Subsetting Codes

To subset these codes:

1) Expand the code list for each group data element by double-clicking on the data element in *Available Regroup Elements* list.
2) Click on a code to add it to a group.

[NOTE: You can add several codes to the group at one time by holding down the **Ctrl** key as you highlight the codes.]

3) Continue this process until you have selected all the codes you want for each group.
4) Click on the ***pencil*** icon to name the new group.
5) Click on the ***check mark*** icon once you have finished naming the group.
6) Click on ***New Group*** to create a new group.

You may select any number of subset codes from the list of data elements; provided that you have at least one code per group and that you have exactly two groups per data element. As you generate the two sets for each

element, these groups are added to the bottom of the *Selected Regroup Groups* list. Note that you do not need to select all available codes. Use only those codes that you want for your analysis.

Menu Instructions

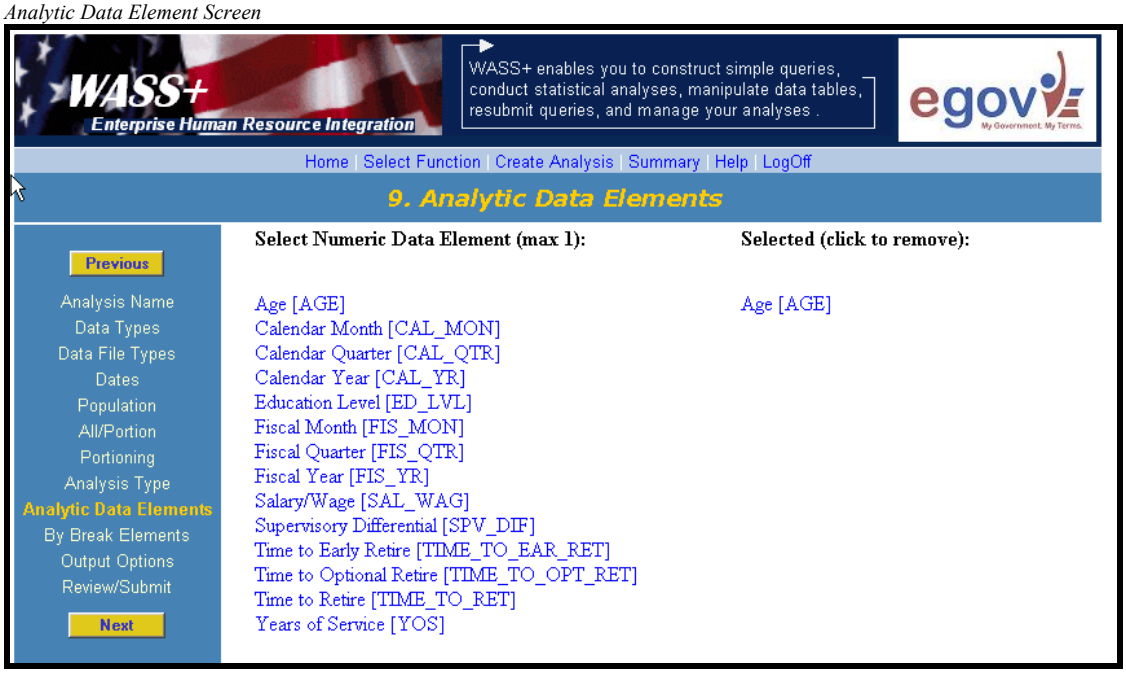
Click ***Previous***. The *T-Test Data Element Selection* screen appears.

Click ***Next***. The *Analytic Data Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.2.3 Select Analytic Data Element

Analytic Data Element Screen



Use the A*nalytic Data Elements* screen to select the single *data element* to be used in your analysis. For example, to analyze the difference in average Years of Service for those individuals in two Agency Subelement groups, select Years of Service on this menu. Note that the analytic data elements must be numeric and that only numeric data elements are presented for selection.

Selecting One Numeric Data Element

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected list*.

Deselecting the Numeric Data Element

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Menu Instructions

Click ***Previous***. The *T-Test Element Regroup* screen appears.

Click ***Next***. The *By Break Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.2.4 Select By Break Elements

By Break Elements Screen

Use the *By Break Elements* screen to conduct your analysis *BY* the data elements you select. For example, to analyze the difference in average Years of Service for those individuals in two Agency Subelement groups by Sex, select Sex on this menu.

You may select up to nine *by break elements* from the list of elements provided by the application.

Omit By Break Elements

If you do not want your results to be broken out *BY* any data element, check the *Omit By Break Elements* box. If you change your mind, uncheck the *Omit By Break Elements* box.

Selecting 1 to 9 By Break Elements

1) Click the by break element in the *Select By Break Elements* list.
2) Once selected, the by break element appears in the *Selected* list.

Deselecting By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Click the ***left arrow*** button to deselect the selected by break element.

Arranging By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Use the ***up*** and ***down arrows*** on the right to position the by break element in the selected list.

As you select *by break elements*, notice that the order of your selection is maintained. *By break elements* may be easily re-sequenced, however, by highlighting the selected by *break element* to be moved, and clicking the ***up*** or ***down arrows*** to the right.

The order (or sequence) of your selections determines how the *BY* break elements will be combined and how the results will be calculated and displayed in your output. In the example above, if Sex is in the first position and Pay Grade is in the second position, Pay Grade will be embedded within each value of Sex. If reversed (i.e., Pay Grade is in the first position and Sex is in the second position), Sex will be embedded within each value of Pay Grade.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

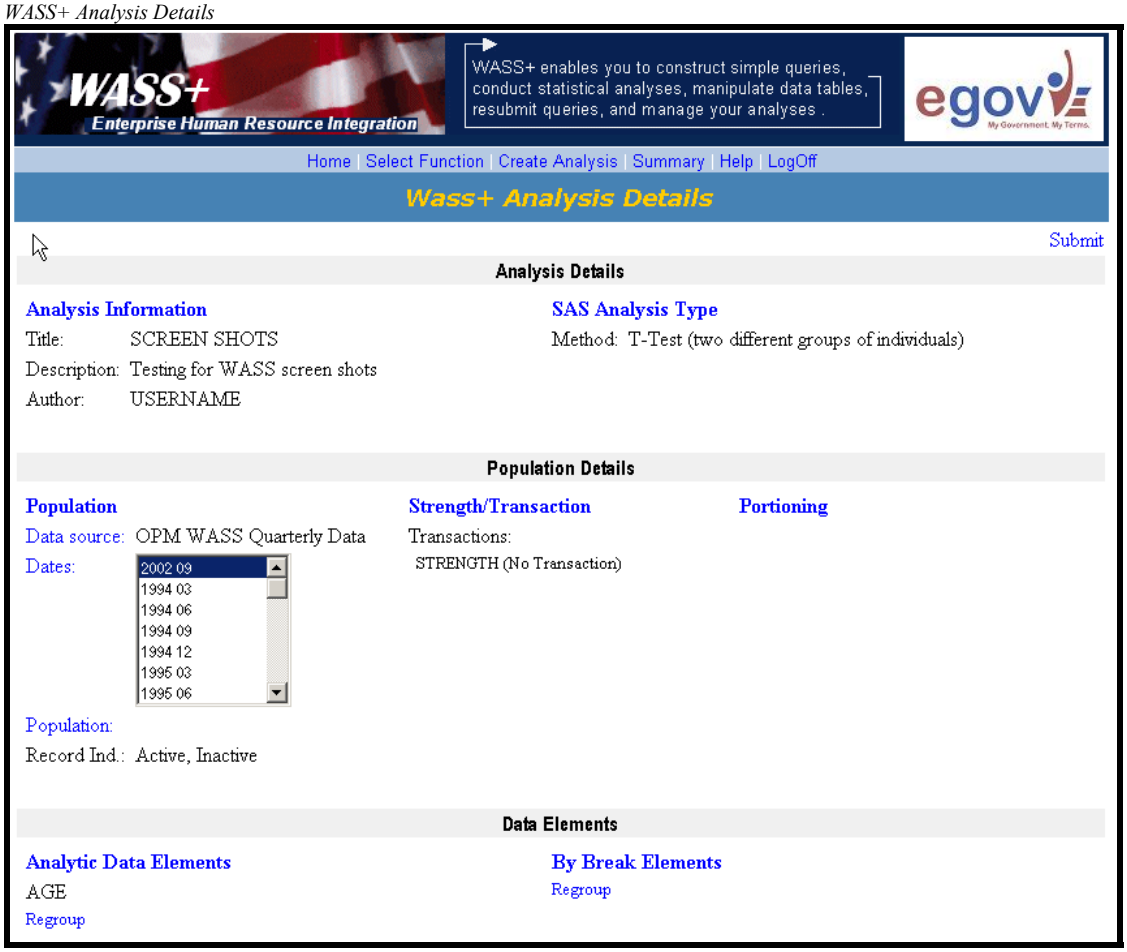
Click ***Previous***. The *Analytic Data Elements* screen appears.

Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.2.5 WASS+ Analysis Details

WASS+ Analysis Details



The next screen to appear is the *WASS+ Analysis Details* screen, displaying all the aspects of your analysis. You may edit any aspect of the analysis by selecting the particular area you want to edit, and you will advance to that particular screen to make changes. Once you make changes, select ***Next***, and you will return to this screen. Once you are satisfied with the selections made for the analysis, select ***Submit*** to advance to the *Review/Submit* screen.

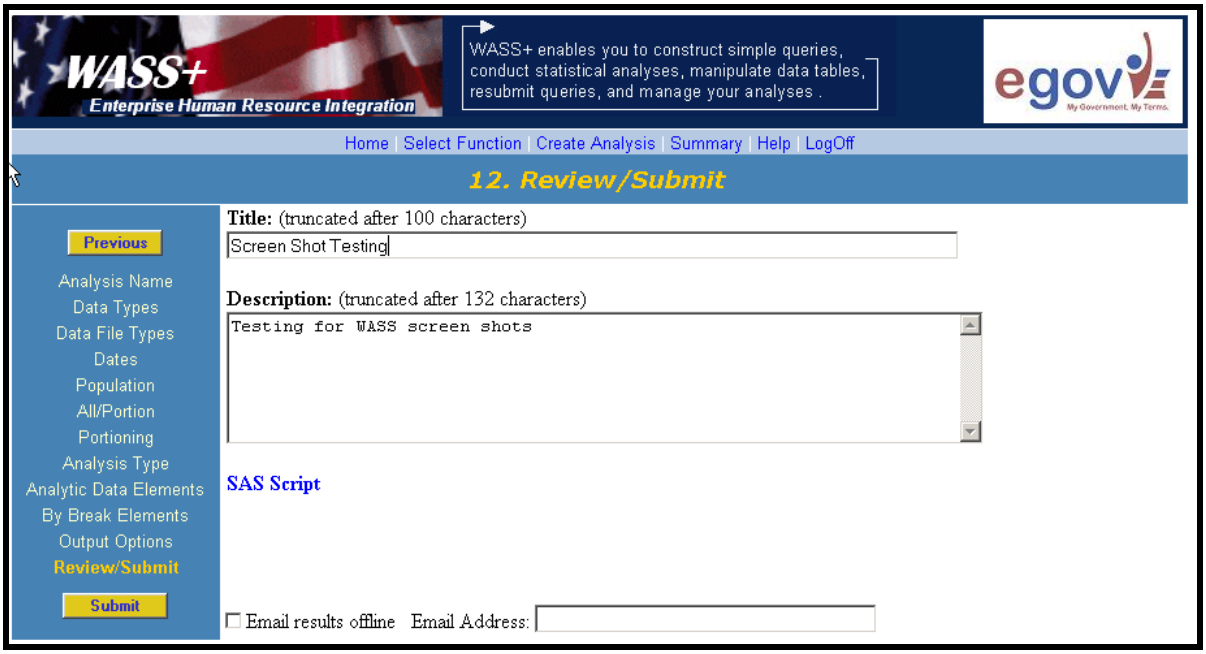
Menu Instructions

Click ***Submit*** to submit your analysis. The *Review/Submit* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.2.6 Review/Submit

Review/Submit Screen



The next screen to appear is the *Review/Submit* screen, displaying the *Title* and *Description* for your analysis. In addition, you have the option to view the *SAS Script* associated with your analysis and *Email Results* to an *Email Address*.

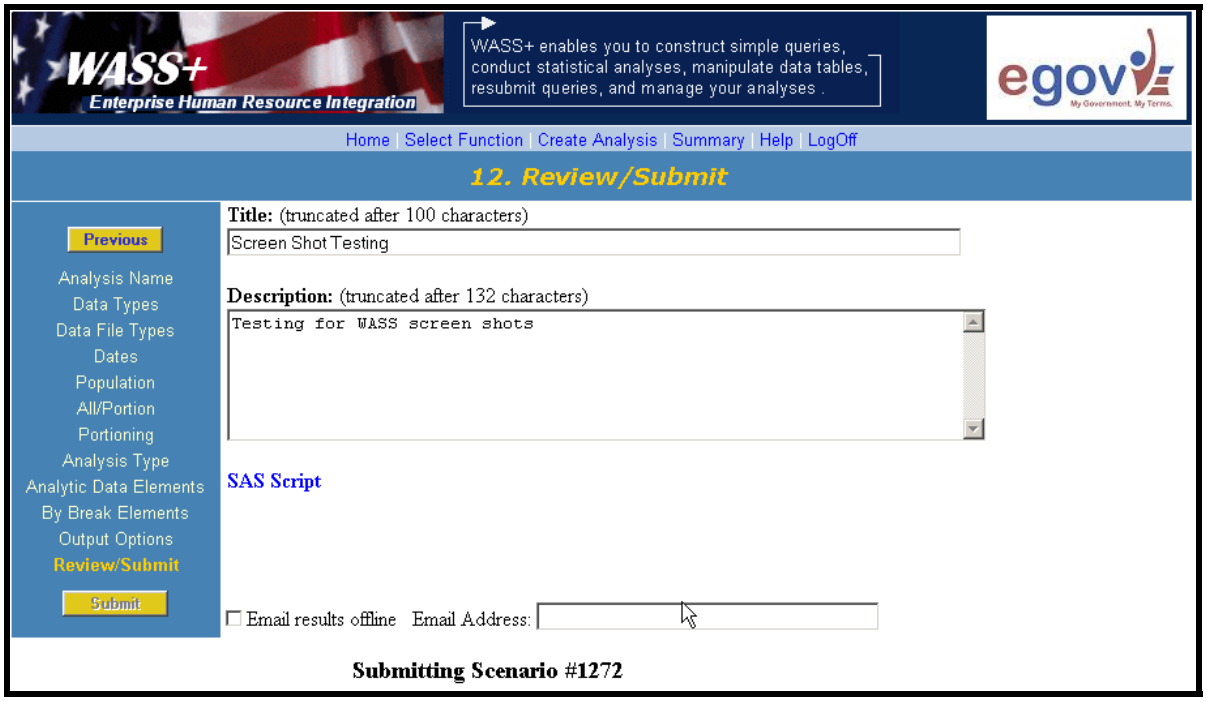
Title
The *Title* field displays the title of your analysis.

Description
The *Description* field provides the description of your analysis.

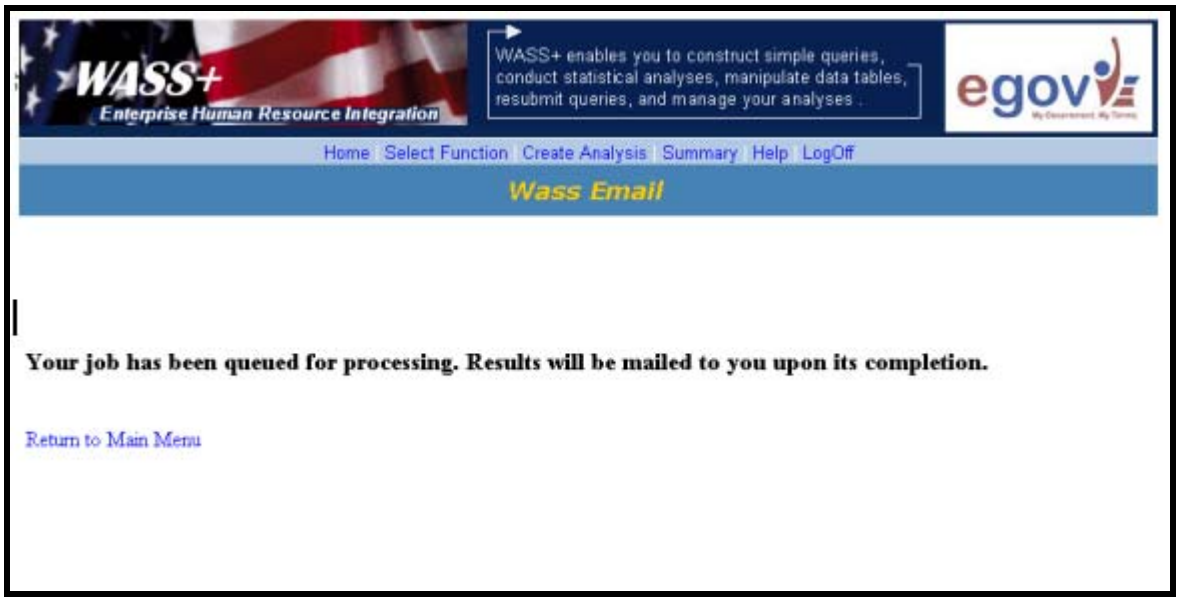
SAS Script
Click ***SAS Script*** to view the SAS script associated with your analysis.

Email Results/ Email Address
Check the box next to *Email Results Offline* if you wish to have email notification of your analysis results. If you click this box, also place your email address in the *Email Address* field.

Review/Submit Screen



The message *Submitting Scenario* will appear on the screen once the analysis has been submitted. Results will be displayed on the screen once the query has completed.



If the *Email results offline* option is chosen, the message *Your job has been queued for processing. Results will be mailed to you upon its completion* will appear on the screen once the analysis has been submitted.

3.7.4.3 Paired T-Test

Analysis Type – Paired T-Test

The *Paired T-Test* evaluates the difference between the averages of two related numeric data elements on the same individual before and after an event such as a training course, reassignment, change in policy, etc., (e.g., difference between the average performance appraisal ratings on supervisory elements before and after attending a management training course). *Paired T-Test* will typically be used on a sample of data, for example when survey data is loaded into the WASS+ system.

Select Analysis Type
Click ***Paired T-Test*** from the *Analysis Type* screen.

Menu Instructions

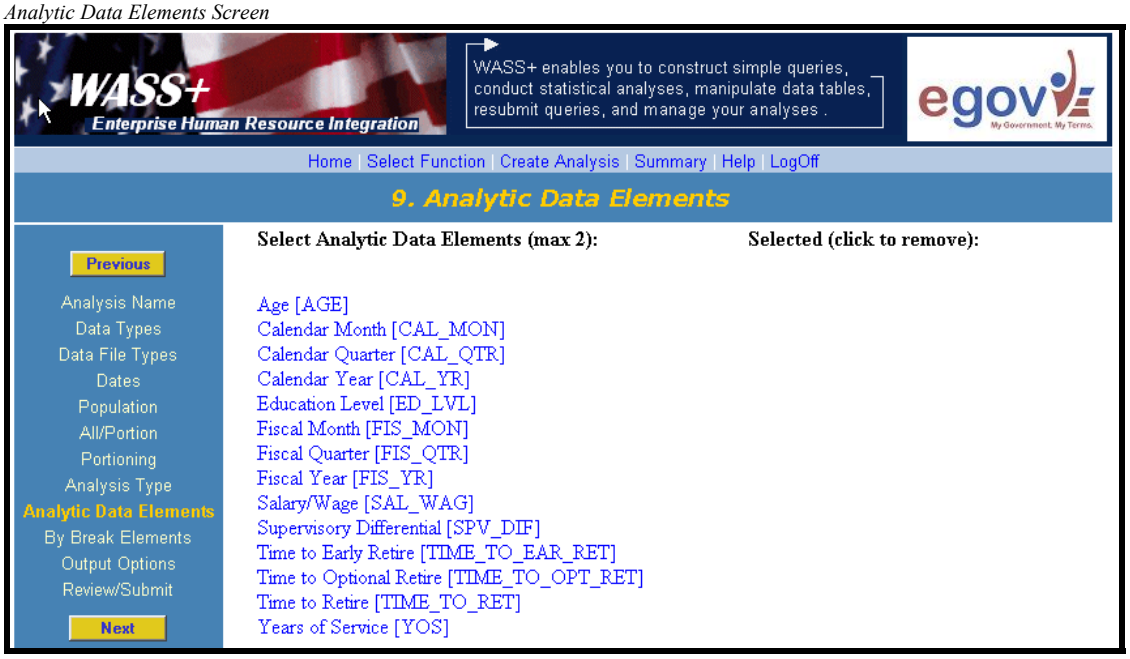
Click ***Previous***. If you selected *Portion*, the *Portioning* screen appears. If you selected *Quick portion*, the *Quick Portion* screen appears. Otherwise, the *All/Portion* screen appears.

Click ***Next***. The *Analytic Data Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.3.1 Select Data Element

Analytic Data Elements Screen



Use the *Analytic Data Elements* screen to select two related numeric data elements to analyze. The P*aired T-Test* procedure tests the hypothesis that the mean of the differences between the two data elements is zero. The P*aired T-Test* output listings show the number of observations, the mean, the T-statistic and the probability of a greater absolute value of T.

You must select two *data elements* from the list of data elements provided by the application. Note that the analytic data elements must be numeric and that only numeric data elements are presented for selection.

Selecting Two Analytic Data Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected* list.

Deselecting Analytic Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

NOTE: The order of the data elements is determined alphabetically (where "A" is first data element and "B" is second data element), and that the differences ("DIFF") will be computed as: DIFF = A - B.

Menu Instructions

Click ***Previous***. The *Analysis Type* screen appears.

Click ***Next***. The *By Break Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.3.2 Select By Break Elements

By Break Elements Screen

The *By Break Elements* screen enables you to conduct your analysis *BY* the data elements that you select. For example, to analyze the potential differences in test scores *BY* Pay Grade, select Pay Grade on this menu.

You may select up to nine *by break elements* from the list of elements provided by the application.

Omit By Break Elements

If you do not want your results to be broken out *BY* any data element, check the *Omit By Break Elements* box. If you change your mind, uncheck the *Omit By Break Elements* box.

Selecting 1 to 9 By Break Elements

1) Click the by break element in the *Select By Break Elements* list.
2) Once selected, the by break element appears in the *Selected* list.

Deselecting By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Click the ***left arrow*** button to deselect the selected by break element.

Arranging By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Use the ***up*** and ***down arrows*** on the right to position the by break element in the selected list.

As you select *by break elements*, notice that the order of your selection is maintained. *By break elements* may be easily re-sequenced, however, by highlighting the selected b*y break element* to be moved, and clicking the ***up*** or ***down arrows*** to the right.

The order (or sequence) of your selections determines how the *BY* break elements will be combined and how the results will be calculated and displayed in your output. In the example above, if Sex is in the first position and Pay Grade is in the second position, Pay Grade will be embedded within each value of Sex. If reversed (i.e., Pay Grade is in the first position and Sex is in the second position), Sex will be embedded within each value of Pay Grade.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

Click ***Previous***. The *Analytic Data Elements* screen appears.

Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.3.3 WASS+ Analysis Details

WASS+ Analysis Details

The next screen to appear is the *WASS+ Analysis Details* screen, displaying all the aspects of your analysis. You may edit any aspect of the analysis by selecting the particular area you want to edit, and you will advance to that particular screen to make changes. Once you make changes, select ***Next***, and you will return to this screen. Once you are satisfied with the selections made for the analysis, select ***Submit*** to advance to the *Review/Submit* screen.

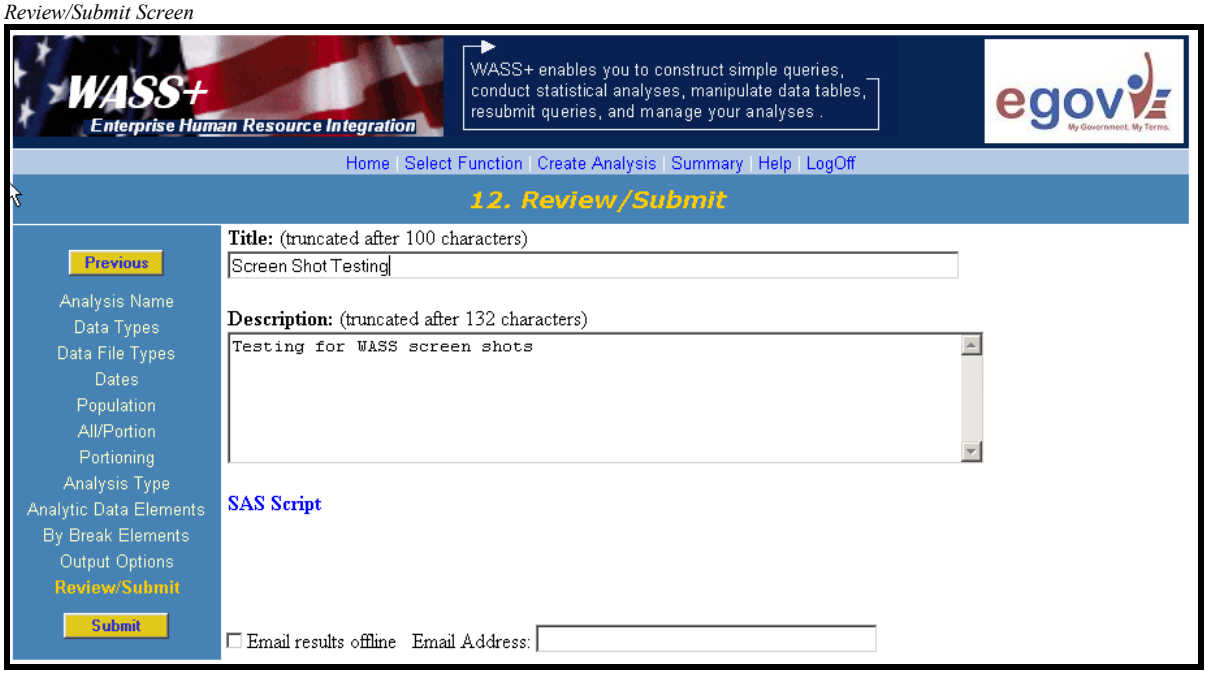
Menu Instructions

Click ***Submit*** to submit your analysis. The *Review/Submit* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.3.4 Review/Submit

Review/Submit Screen



The next screen to appear is the *Review/Submit* screen, displaying the *Title* and *Description* for your analysis. In addition, you have the option to view the *SAS Script* associated with your analysis and *Email Results* to an *Email Address*.

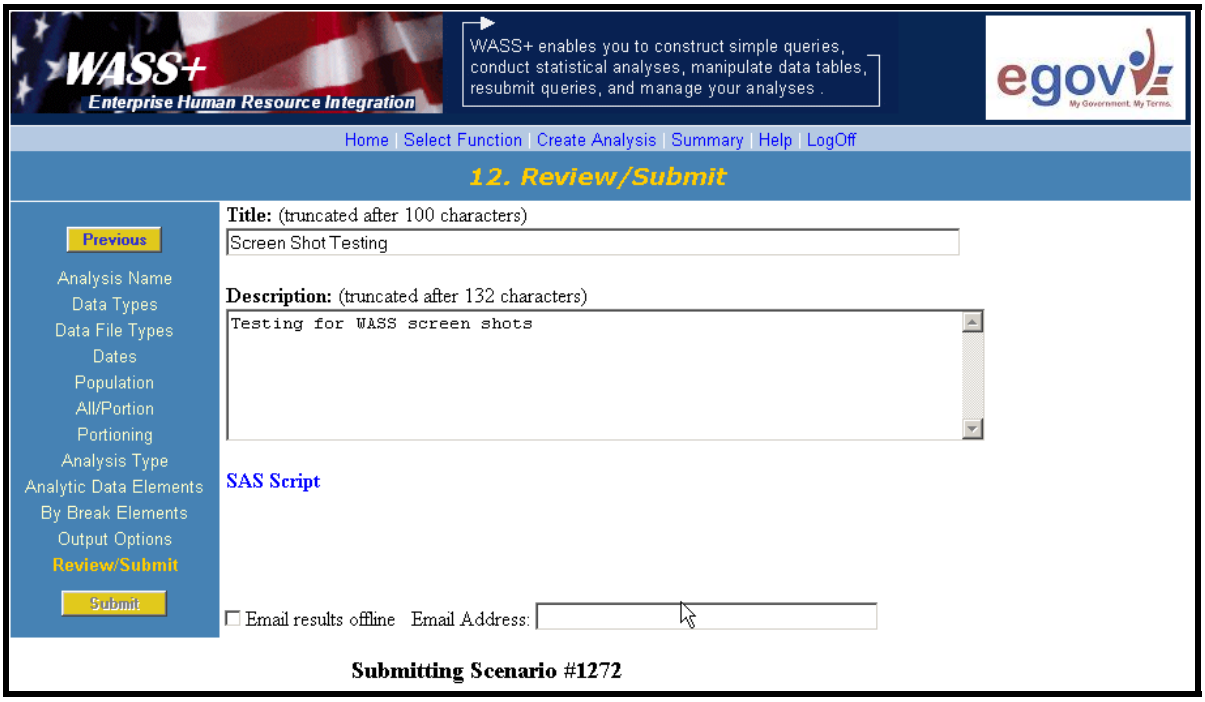
Title
The *Title* field displays the title of your analysis.

Description
The *Description* field provides the description of your analysis.

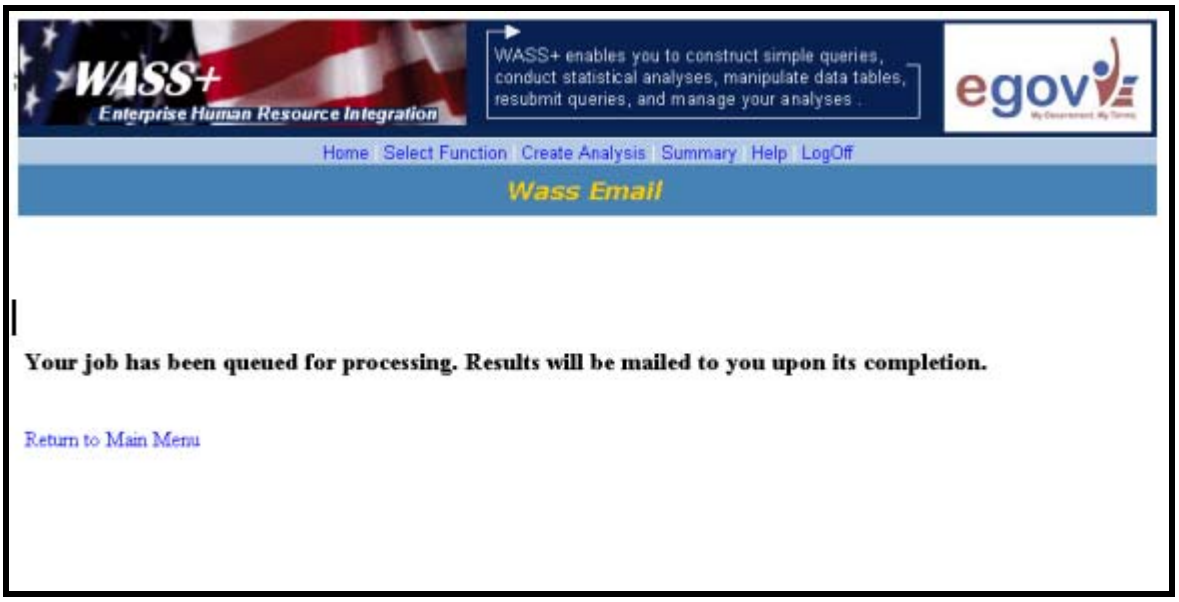
SAS Script
Click ***SAS Script*** to view the SAS script associated with your analysis.

Email Results/ Email Address
Check the box next to *Email Results Offline* if you wish to have email notification of your analysis results. If you click this box, also place your email address in the *Email Address* field.

Review/Submit Screen



The message *Submitting Scenario* will appear on the screen once the analysis has been submitted. Results will be displayed on the screen once the query has completed.



If the *Email results offline* option is chosen, the message *Your job has been queued for processing. Results will be mailed to you upon its completion* will appear on the screen once the analysis has been submitted.

3.7.4.4 Analysis of Variance (ANOVA)

Analysis Type - Analysis of Variance (ANOVA)

The *Analysis of Variance (ANOVA)* procedure compares the averages of your groups for a single numeric data element (referred to as the *dependent data element*) and determines the probability that the averages deviate from one another merely by sampling error.

Use the *Analytic Data Elements* screens to evaluate the differences in the averages of a numeric data element between multiple groups of another data element (e.g., average Years of Service in each of the Race or National Origin groups) or between multiple categories of data element combinations (e.g., average Years of Service in each of the Pay Grades by Sex groups (i.e., female grade 13, male grade 13).

For example, if you want to know whether there is a difference in the average Years of Service between the various Race or National Origin groups, the dependent data element you would select on this selection menu would be Years of Service. The ANOVA procedure would compare the average for Years of Service between the Race or National Origin groups to determine if the differences are significant (i.e., due to chance occurrence or due to real differences).

Select Analysis Type
Click ***Analysis of Variance (ANOVA)*** on the *Analysis Type* screen.

Menu Instructions

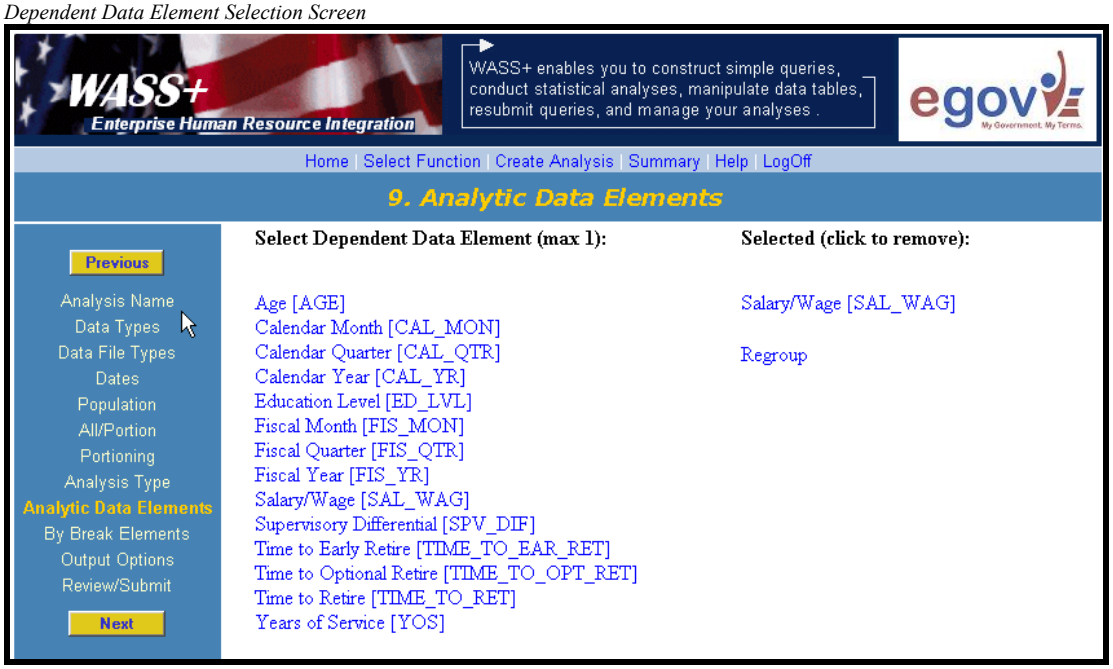
Click ***Previous***. If you selected *Portion*, the *Portioning* screen appears. If you selected *Quick portion*, the *Quick Portion* screen appears. Otherwise, the *All/Portion* screen appears.

Click ***Next***. The *Dependent Data Element Selection* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.4.1 Select Dependent Data Element

Dependent Data Element Selection Screen



Use the *Dependent Data Element* screen to select the dependent data element. You may select only one *dependent* data element from a list of numeric fields provided by the system.

Selecting a *Dependent* Data Element

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected* list.

Deselecting a *Dependent* Data Element

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Menu Instructions

Click ***Previous***. The *Analysis Type* screen appears.

Click ***Next***. The *Independent Data Element Selection* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.4.2 Select Independent Data Element

Independent Data Elements Selection Screen

The *Analysis of Variance (ANOVA)* procedure compares the averages of your group for the numeric data element you identified on the *Dependent Data Element* screen. The data elements that identify your groups are referred to as the *independent data elements*. On this selection menu you must select the data elements that identify your groups.

For example, if you want to know whether there is a difference in the average Years of Service between the various Race or National Origin groups, the I*ndependent* data element you would select on this menu would be Race or National Origin. The ANOVA procedure would compare the averages for Years of Service between the various Race or National Origin groups to determine if the differences are significant (i.e., due to chance occurrence or due to real differences).

You may select only one D*ependent* data element, but may select up to five I*ndependent* data elements from the list of elements provided by WASS+.

NOTE: Unlike the *dependent* data element, the *independent* data elements you select on this selection menu do NOT have to be numeric. Your *independent* data elements may be in *categorical* form (as in the case of Race or National Origin groups), or they may be numeric data elements that have groupings (as in the Age groups, such as 25 to 35, 36 to 45, 46 to 55, etc.). Other names for *independent* data elements are classification, treatment, categorical, qualitative, or nominal data elements.

Selecting *Independent* Data Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected* list.

Deselecting *Independent* Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

Click ***Previous***. The *Dependent Data Element Selection* screen appears.

Click ***Next***. The *By Break Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.4.3 Select By Break Elements

By Break Elements Screen

The *By Break Elements* screen enables you to conduct your analysis *BY* the data elements you want. For example, if you want to know whether there is a difference in the average Years of Service between the various Race or National Origin groups *BY* Pay Grade and Sex, you would select Sex and Pay Grade on this menu.

You may select up to nine *by break elements* from the list of elements provided by WASS+.

Omit By Break Elements

If you do not want your results to be broken out *BY* any data element, check the *Omit By Break Elements* box. If you change your mind, uncheck the *Omit By Break Elements* box.

Selecting 1 to 9 By Break Elements

1) Click the by break element in the *Select By Break Elements* list.
2) Once selected, the by break element appears in the *Selected* list.

Deselecting By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Click the ***left arrow*** button to deselect the selected by break element.

Arranging By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Use the ***up*** and ***down arrows*** on the right to position the by break element in the selected list.

As you select *by break elements*, notice that the order of your selection is maintained. *By break elements* may be easily re-sequenced, however, by highlighting the selected b*y break element* to be moved, and clicking the ***up*** or ***down arrows*** to the right.

The order (or sequence) of your selections determines how the *BY* break elements will be combined and how the results will be calculated and displayed in your output. In the example above, if Sex is in the first position and Pay Grade is in the second position, Pay Grade will be embedded within each value of Sex. If reversed (i.e., Pay Grade is in the first position and Sex is in the second position), Sex will be embedded within each value of Pay Grade.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

Click ***Previous***. The *Independent Data Element Selection* screen appears.

Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.4.4 WASS+ Analysis Details

WASS+ Analysis Details

The next screen to appear is the *WASS+ Analysis Details* screen, displaying all the aspects of your analysis. You may edit any aspect of the analysis by selecting the particular area you want to edit, and you will advance to that particular screen to make changes. Once you make changes, select ***Next***, and you will return to this screen. Once you are satisfied with the selections made for the analysis, select ***Submit*** to advance to the *Review/Submit* screen.

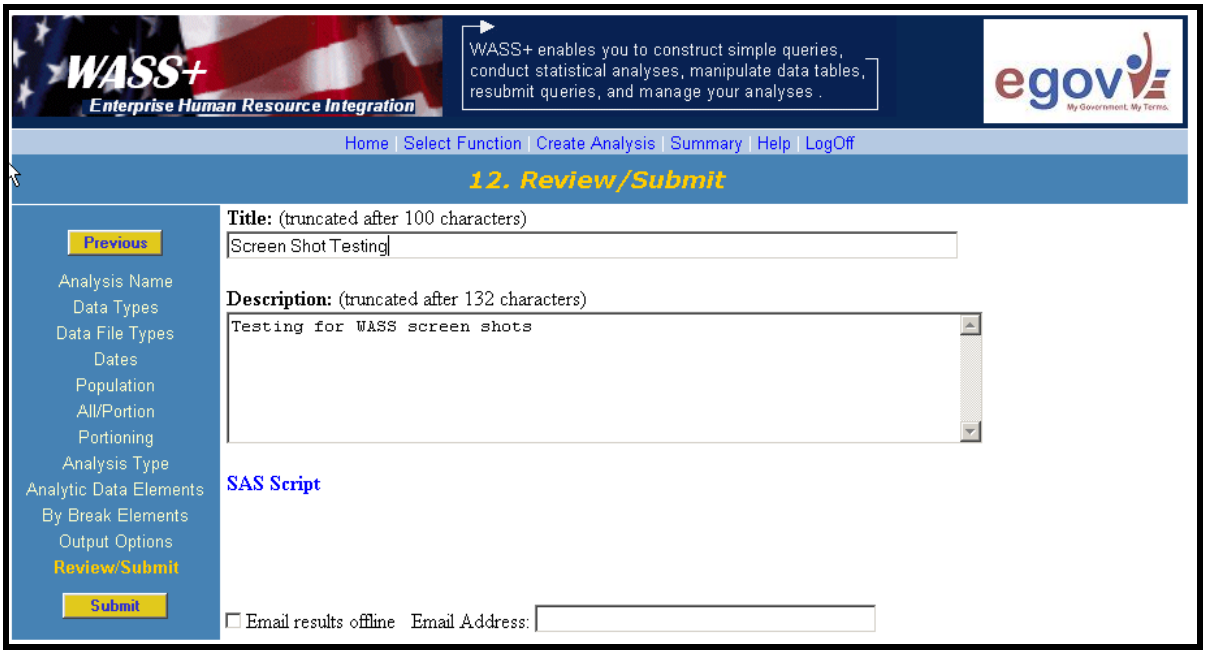
Menu Instructions

Click ***Submit*** to submit your analysis. The *Review/Submit* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

3.7.4.4.5 Review/Submit

Review/Submit Screen



The next screen to appear is the *Review/Submit* screen, displaying the *Title* and *Description* for your analysis. In addition, you have the option to view the *SAS Script* associated with your analysis and *Email Results* to an *Email Address*.

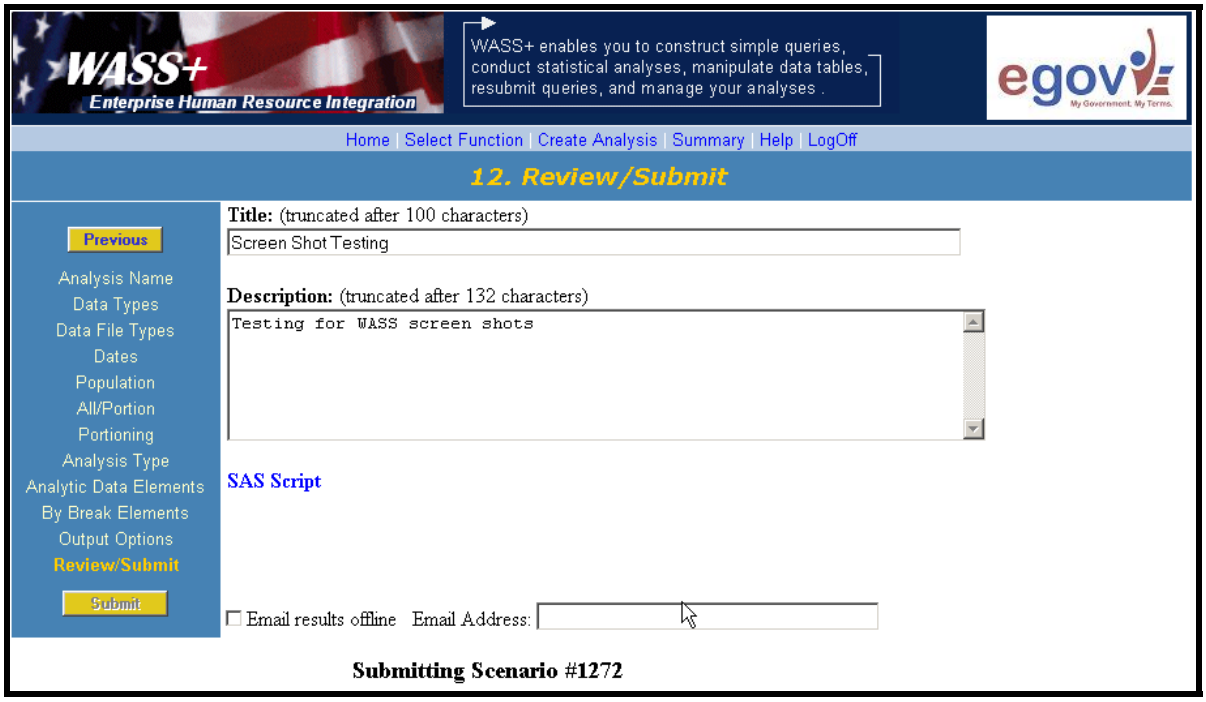
Title
The *Title* field displays the title of your analysis.

Description
The *Description* field provides the description of your analysis.

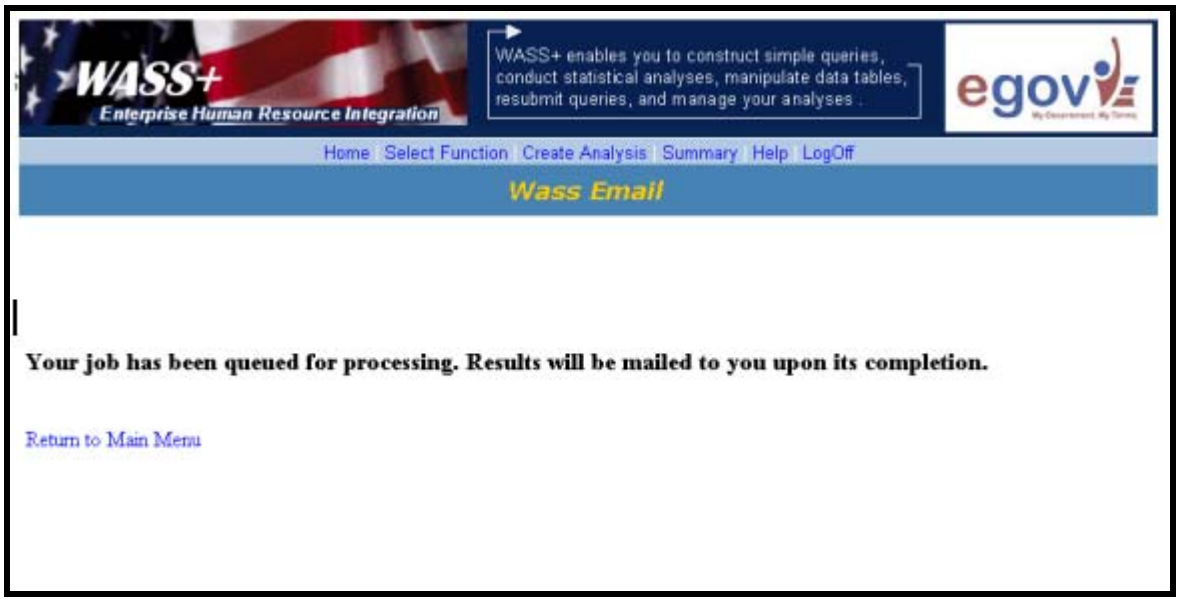
SAS Script
Click ***SAS Script*** to view the SAS script associated with your analysis.

Email Results/ Email Address
Check the box next to *Email Results Offline* if you wish to have email notification of your analysis results. If you click this box, also place your email address in the *Email Address* field.

Review/Submit Screen



The message *Submitting Scenario* will appear on the screen once the analysis has been submitted. Results will be displayed on the screen once the query has completed.



If the *Email results offline* option is chosen, the message *Your job has been queued for processing. Results will be mailed to you upon its completion* will appear on the screen once the analysis has been submitted.

3.7.5 Prediction

3.7.5.1 Regression Analysis

Analysis Type - Regression Analysis

Use *Regression Analysis* to evaluate whether the values of one numeric data element can be predicted or expressed in terms of one or more data elements (i.e., predict Years of Service from Education Level and Sex).

Regression analysis is most commonly used to predict or explain "something" on the basis of knowing some other "thing(s)" to determine if there is a predictable or explainable relationship (e.g., predict or explain the number of Promotions by knowing Sex and Years of Service). The "something" you are trying to predict or explain is the *dependent* data element. The "thing(s)" you are using to predict or explain the dependent data element are known as the *independent* data element(s).

Select Analysis Type
Click ***Regression Analysis*** on the *Analysis Type* screen.

Menu Instructions

Click ***Previous***. If you selected *Portion*, the *Portioning* screen appears. If you selected *Quick portion*, the *Quick Portion* screen appears. Otherwise, the *All/Portion* screen appears.

Click ***Next***. The *Independent Categorical Data Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.1.1 Select Independent Categorical Data Elements

Independent Categorical Data Elements Screen

The *independent* data elements in a Regression Analysis are the elements you use to predict or explain the *dependent* data element. *Independent* data elements may be *categorical* (e.g., Sex, Race or National Origin, Agency) or *continuous* (e.g., Age, Salary, Years of Service) or a combination of both.

The *independent* data elements should be selected according to these two groupings:

1) Some of both *categorical (*e.g., Sex, Race or National Origin, Agency) and *continuous* (e.g., Age, Salary, Years of Service).

OR

2) All *continuous* (e.g., Age, Salary, Years of Service).

Use the *Independent Categorical Data Elements* screen to select your *independent categorical* data elements. For example, to predict or explain Salary by knowing Sex and Years of Service, select the *independent categorical* data element Sex. On the next screen, *Independent Continuous Data Elements*, select Years of Service.

NOTE: WASS+ places restrictions on how many *independent* data elements you can select in total and by type. The total number of *independent categorical* PLUS *continuous* data elements you select cannot exceed *four* and at least *one* must be *continuous*.

On the *Independent Categorical Data Elements* screen, you may choose according to the following groupings:

1) Select NO *categorical* data elements and instead select up to 4 *continuous* data elements on the *Independent Continuous Data Elements* screen.

OR

2) Select 1 *categorical* data element and instead select up to 3 *continuous* data elements on the *Independent Continuous Data Elements* screen.

OR

3) Select 2 *categorical* data elements and instead select up to 2 *continuous* data elements on the *Independent Continuous Data Elements* screen.

OR

4) Select 3 *categorical* data elements and instead select 1 *continuous* data element on the *Independent Continuous Data Elements* screen.

Selecting *Categorical Data* Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected* list.

Deselecting *Categorical Data* Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Omit Categorical Data Elements

If you do not want your analysis to contain independent categorical data elements, click ***Next*** without selecting any data elements.

Menu Instructions

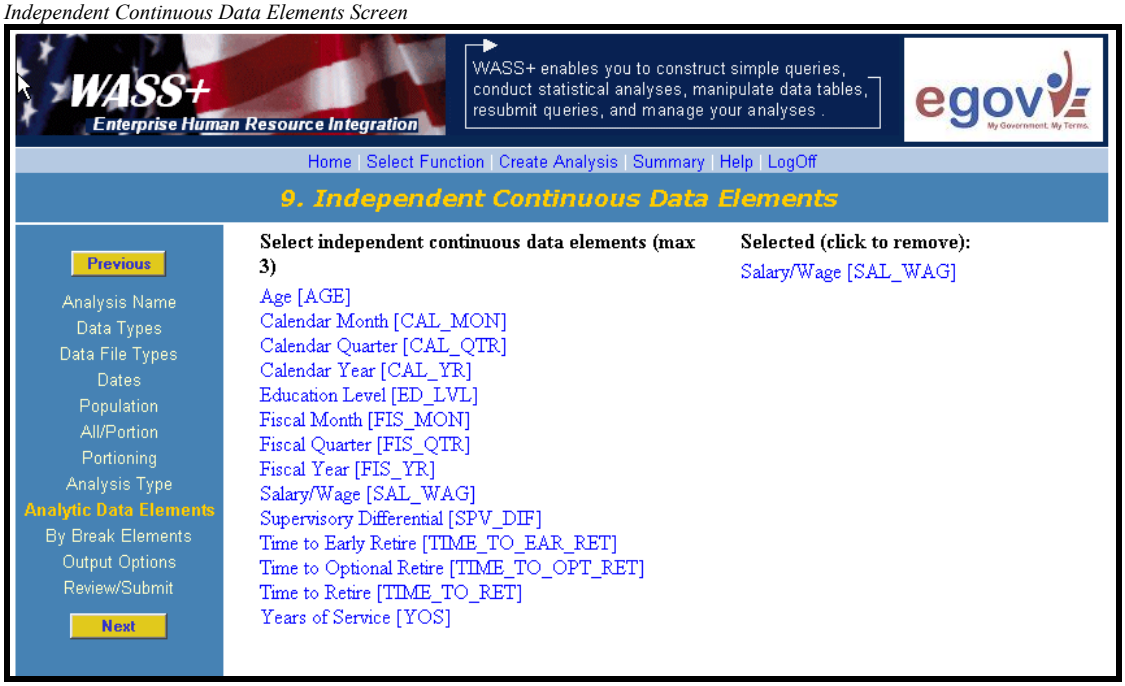
Click ***Previous***. The *Analysis Type* screen appears.

Click ***Next***. The *Independent Continuous Data Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.1.2 Select *Independent Continuous* Data Elements

Independent Continuous Data Elements Screen



Use the *Independent Continuous Data Elements* screen to select the *continuous* data elements (e.g., Age, Salary, Years of Service) for your regression analysis. You must select at least one *continuous* data element.

On the *Independent Continuous Data Elements* screen, you may choose according to the following groupings:

1) Select up to 4 *continuous* data elements, if you did not select any *categorical* data elements on the *Independent Categorical Data Elements* screen.

OR

2) Select up to 3 *continuous* data elements, if you selected 1 *categorical* data element on the *Independent Categorical Data Elements* screen.

OR

3) Select up to 2 *continuous* data elements, if you selected 2 *categorical* data elements on the *Independent Categorical Data Elements* screen.

OR

4) Select 1 *continuous* data element, if you selected 3 *categorical* data elements on the *Independent Categorical Data Elements* screen.

For example, to predict or explain Salary by knowing Sex and Years of Service, select the *independent continuous* data element Years of Service.

Selecting *Continuous Data* Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected list*.

Deselecting *Continuous* Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

NOTE: You may select a total of 4 *independent* (*categorical* PLUS *continuous*) data elements.

Menu Instructions

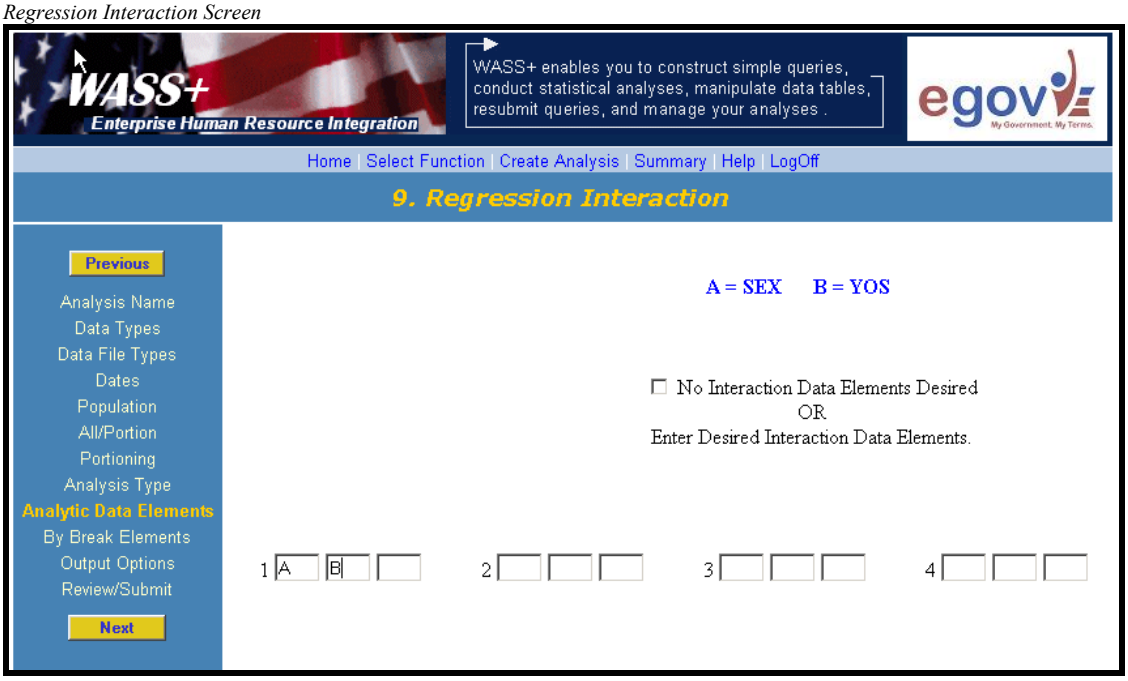
Click ***Previous***. The *Independent Categorical Data Elements* screen appears.

Click ***Next***. The *Regression Interaction* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.1.3 Regression Interaction

Regression Interaction Screen



You have selected *independent categorical* and *continuous* data elements to predict or explain the *dependent* data element. Also, you may select i*nteraction* data elements to predict or explain the *dependent* data element (i.e., to specify the full model). An interaction data element consists of the combined effect of categorical and/or continuous data elements.

For example, you may want to predict Salary as your *dependent* data element. To do this, you may want to use Sex as your *categorical* and Years of Service as your *continuous* data elements in your prediction of Salary. If you only specified Sex and Years of Service as separate data elements, your prediction may not be very accurate because the prediction of Salary may vary by Sex and Years of Service. For instance, it may be

that for females with more than a certain number of Years of Service there is a predictable relationship between Years of Service and Salary but not for males. This means that in order to predict Salary more accurately, you must also specify a Sex by Years of Service *interaction* through this menu by entering that combination.

On the *Regression Interaction* screen, the selected categorical and continuous data elements will appear in a list of available data elements, with a corresponding reference letter. This reference letter is used to define the interaction data elements.

Creating Each Combination (or Group) of *Interaction Data* Elements

1) In the boxes next to 1, enter the reference letters corresponding to the desired data elements to create the interaction data element.
2) If more than one interaction data element is desired, use the boxes adjacent to the next number is succession.

Deselecting *Interaction* Data Elements

1) Remove the reference letters from the boxes that create the interaction data element.

You may choose up to four *interaction* combinations.

Omit Data Element Interactions

If you do NOT want to specify any *interaction data elements*, check the *No Interaction Data Elements Desired* box.

General Recommendation

As standard practice, to ensure that your prediction includes all data element *interactions* that may be of significance, enter all the two-way interactions *between* each *continuous* data element and each *categorical* data element. Three-way interactions are not needed for most analytic applications.

(NOTE: Three-way interactions are subject to more complex analytic evaluations and require an in-depth knowledge of statistics.)

Menu Instructions

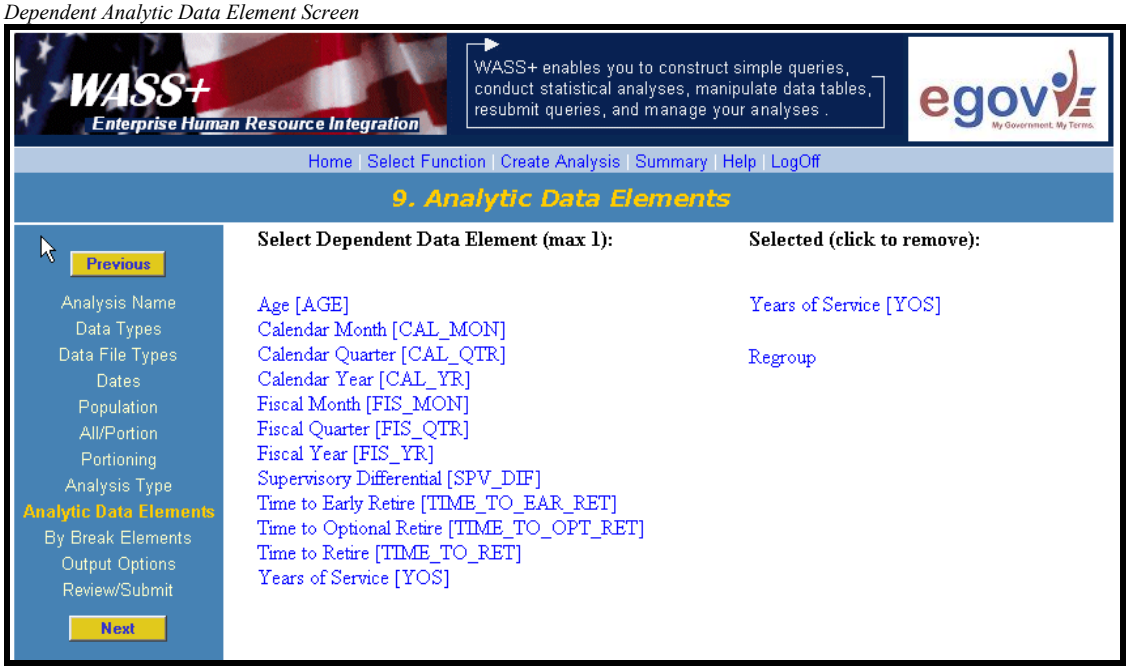
Click ***Previous***. The *Independent Continuous Data Element* screen appears.

Click ***Next***. The *Dependent Analytic Data Element* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.1.4 Select *Dependent* Data Element

Dependent Analytic Data Element Screen



Use the *Dependent Data Element* screen to identify the numeric data element you want to predict or explain. For example, if you want to know if you could predict or explain Salary by knowing Sex and Years of Service, the dependent numeric data element you would select on this menu is Salary.

In regression analysis you may have several *dependent* data elements. However, in WASS+ you may select only ONE *dependent* data element, and it must be *numeric* (e.g., Years of Service, Age).

Selecting a *Dependent Data Element*

1) Click the data element in the *Select Dependent Data Elements* list.
2) Once selected, the data element appears in the *Selected list*.

Deselecting a *Dependent Data Element*

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

General Recommendation: Regression Analysis vs. Analysis of Variance (ANOVA)
Using R*egression Analysis* instead of *ANOVA* is recommended when some of the data elements you are planning to use to predict or explain the dependent data element are *categorical*—i.e., *non-numeric* (e.g., Sex) - and some others are *continuous*—i.e., *numeric* (e.g., Age). For example, if the data elements you want to use to predict or explain Salary are ALL *categorical* (like Race or National Origin and Sex), use *ANOVA*. If the data elements you want to use to predict or explain Salary are of both types (i.e., some are *categorical* such as Race or National Origin and Sex, and others are *continuous*, such as Age and Years of Service), use R*egression Analysis*.

Menu Instructions

Click ***Previous***. The *Regression Interaction* screen appears.

Click ***Next***. The *By Break Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.1.5 Select *By Break* Elements

By Break Elements Screen

Use the *By Break Elements* screen to conduct your analysis *BY* the data elements you want. For example, to predict or explain Salary by knowing Sex *BY* Pay Grade, select Pay Grade on this menu.

You may select up to nine *by break elements* from the list of elements provided by WASS+.

Omit By Break Elements

If you do not want your results to be broken out *BY* any data element, check the *Omit By Break Elements* box. If you change your mind, uncheck the *Omit By Break Elements* box.

Selecting 1 to 9 By Break Elements

1) Click the by break element in the *Select By Break Elements* list.
2) Once selected, the by break element appears in the *Selected* list.

Deselecting By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Click the ***left arrow*** button to deselect the selected by break element.

Arranging By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Use the ***up*** and ***down arrows*** on the right to position the by break element in the selected list.

As you select *by break elements*, notice that the order of your selection is maintained. *By break elements* may be easily re-sequenced, however, by highlighting the selected b*y break element* to be moved, and clicking the ***up*** or ***down arrows*** to the right.

The order (or sequence) of your selections determines how the *BY* break elements will be combined and how the results will be calculated and displayed in your output. In the example above, if Sex is in the first position and Pay Grade is in the second position, Pay Grade will be embedded within each value of Sex. If reversed (i.e., Pay Grade is in the first position and Sex is in the second position), Sex will be embedded within each value of Pay Grade.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

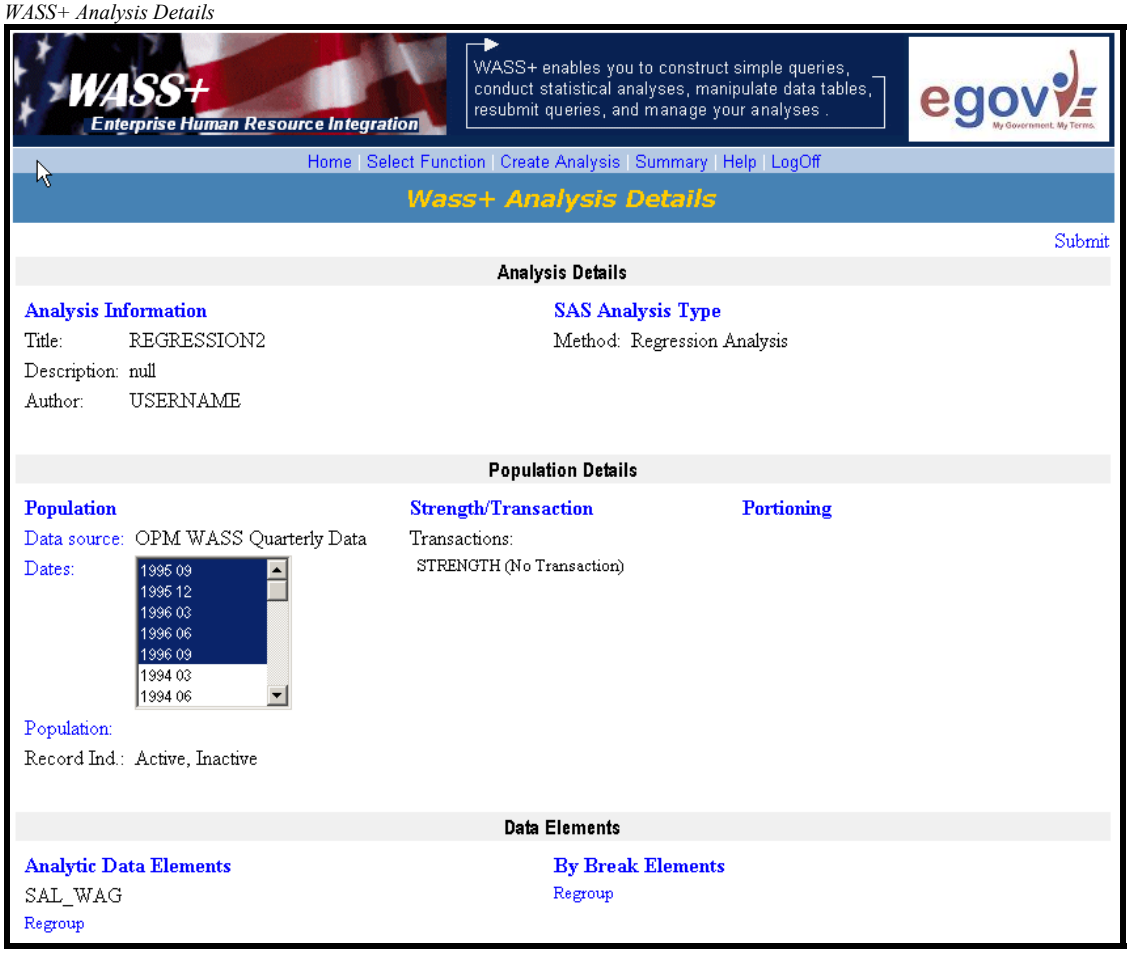
Click ***Previous***. The *Dependent Data Element* screen *a*ppears.

Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.1.6 WASS+ Analysis Details

WASS+ Analysis Details



The next screen to appear is the *WASS+ Analysis Details* screen, displaying all the aspects of your analysis. You may edit any aspect of the analysis by selecting the particular area you want to edit, and you will advance to that particular screen to make changes. Once you make changes, select ***Next***, and you will return to this screen. Once you are satisfied with the selections made for the analysis, select ***Submit*** to advance to the *Review/Submit* screen.

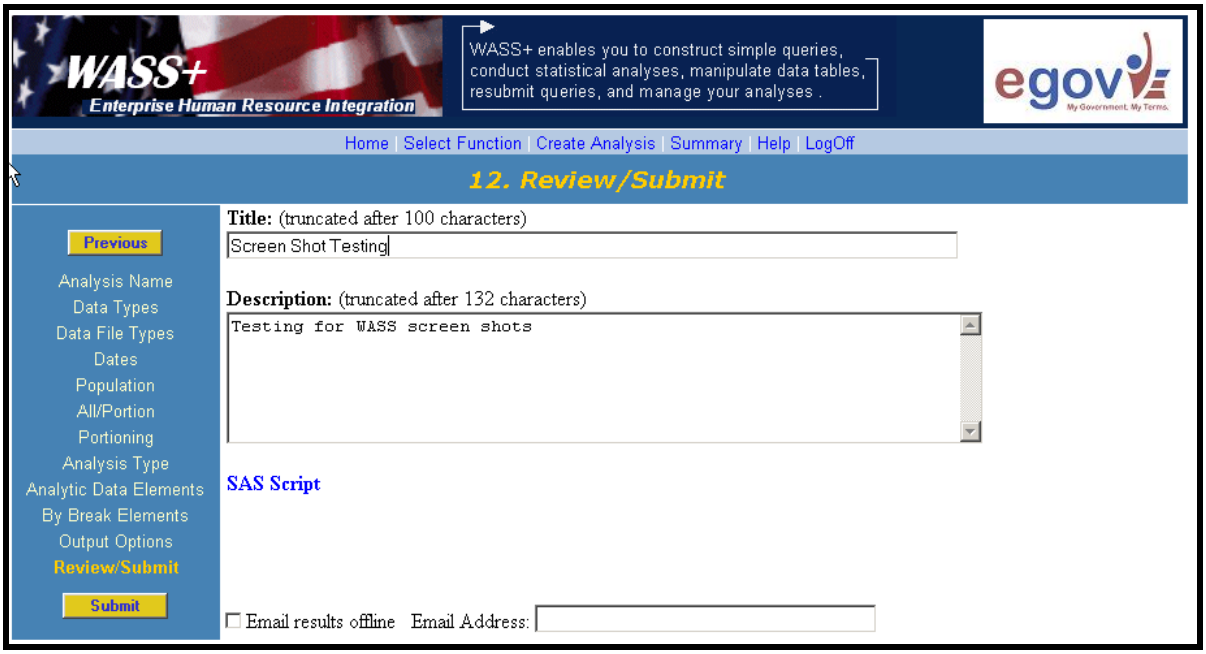
Menu Instructions

Click ***Submit*** to submit your analysis. The *Review/Submit* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.1.7 Review/Submit

Review/Submit Screen



The next screen to appear is the *Review/Submit* screen, displaying the *Title* and *Description* for your analysis. In addition, you have the option to view the *SAS Script* associated with your analysis and *Email Results* to an *Email Address*.

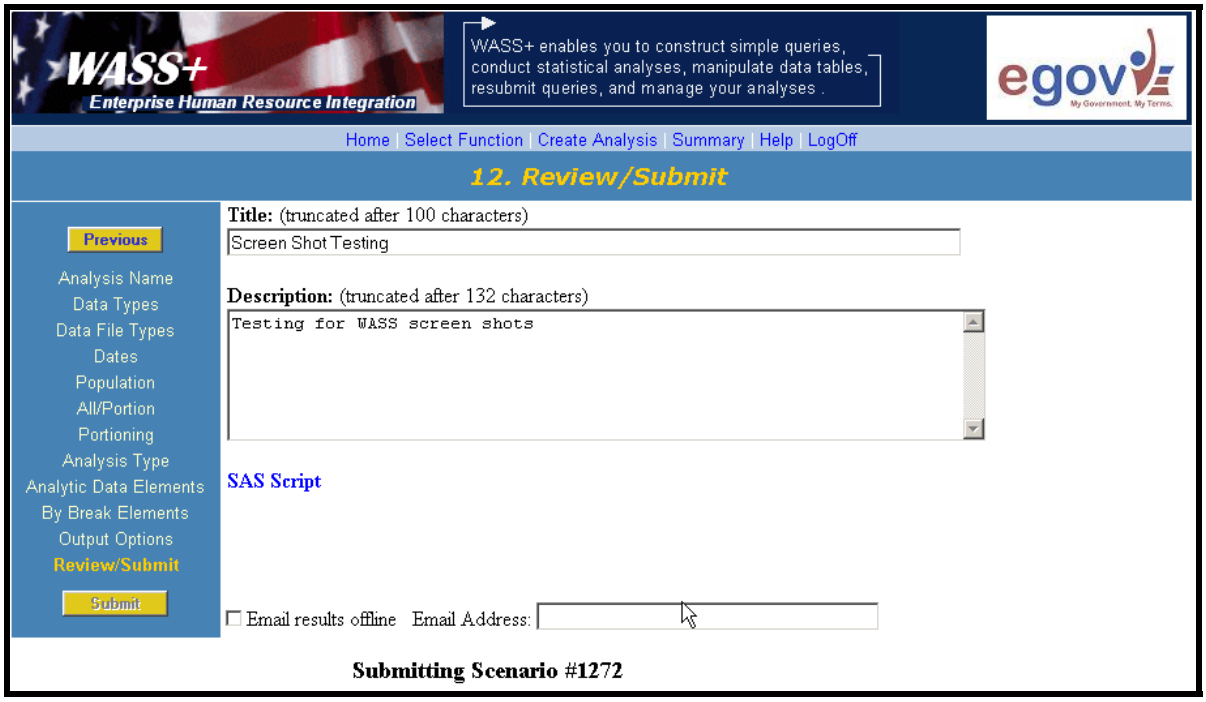
Title
The *Title* field displays the title of your analysis.

Description
The *Description* field provides the description of your analysis.

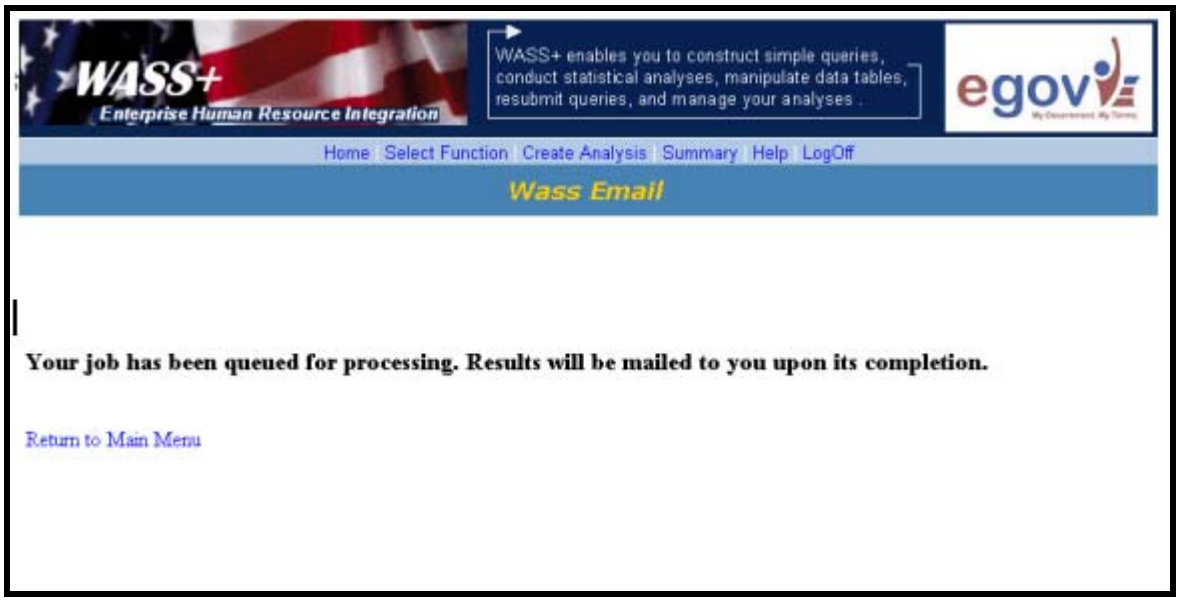
SAS Script
Click ***SAS Script*** to view the SAS script associated with your analysis.

Email Results/ Email Address
Check the box next to *Email Results Offline* if you wish to have email notification of your analysis results. If you click this box, also place your email address in the *Email Address* field.

Review/Submit Screen



The message *Submitting Scenario* will appear on the screen once the analysis has been submitted. Results will be displayed on the screen once the query has completed.



If the *Email results offline* option is chosen, the message *Your job has been queued for processing. Results will be mailed to you upon its completion* will appear on the screen once the analysis has been submitted.

3.7.5.2 Trend Analysis

Analysis Type – Trend Analysis

Use *Trend Analysis* to evaluate the changes of a numeric data element over time for a cohort of individuals to determine if there is a significant pattern or direction that can be used to predict the future (i.e. Salary of females since 1995).

Select Analysis Type

Click ***Trend Analysis*** on the *Analysis Type* screen.

Menu Instructions

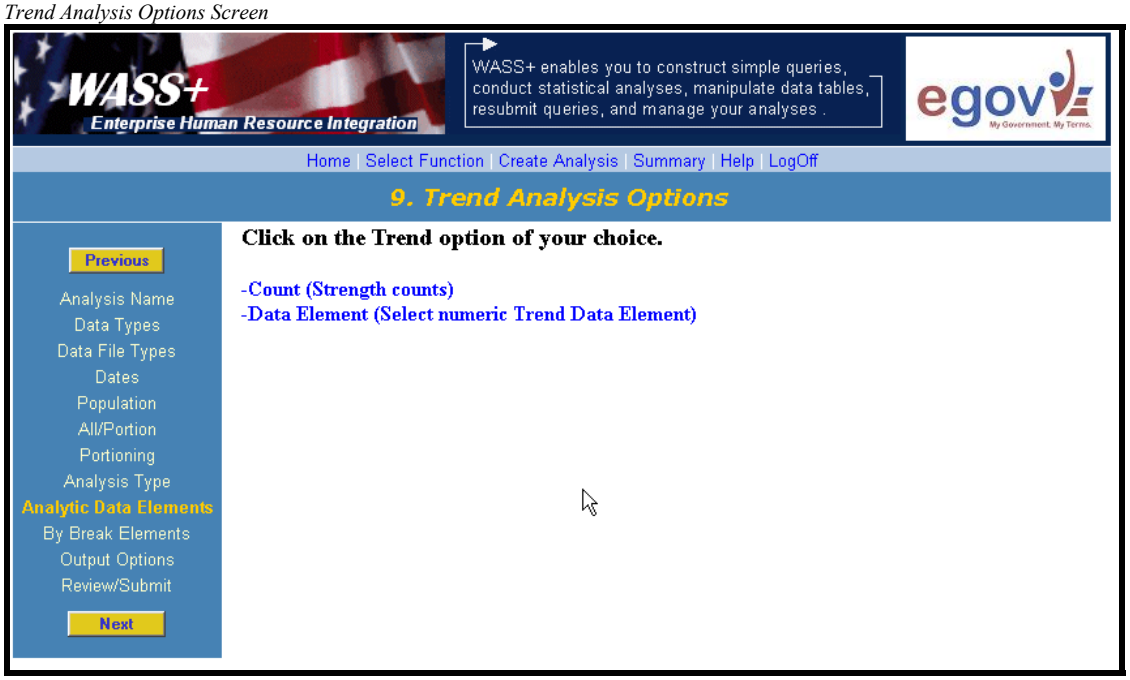
Click ***Previous***. If you selected *Portion*, the *Portioning* screen appears. If you selected *Quick portion*, the *Quick Portion* screen appears. Otherwise, the *All/Portion* screen appears.

Click ***Next***. The *Trend Analysis Options* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.2.1 Trend Analysis Options

Trend Analysis Options Screen



Use the *Trend Analysis Options* screen to select a *trend option.* Depending on the option selected you will have to select one or more *statistical measures* to define the trend.

The trend option identifies the type of data element you want to analyze. Select one of the available options:

1) Counts (Strength counts) - allows you to analyze strength counts - available for Historical Quarterly tables only.
2) Data Element (Select Numeric Trend Data Element) - allows you to analyze any numeric data element in your data table - available for any table selected. This option requires you to identify a numeric data element to analyze on a following menu.

Menu Instructions

Click ***Previous***. The *Analysis Type* screen appears.

Click ***Next***.

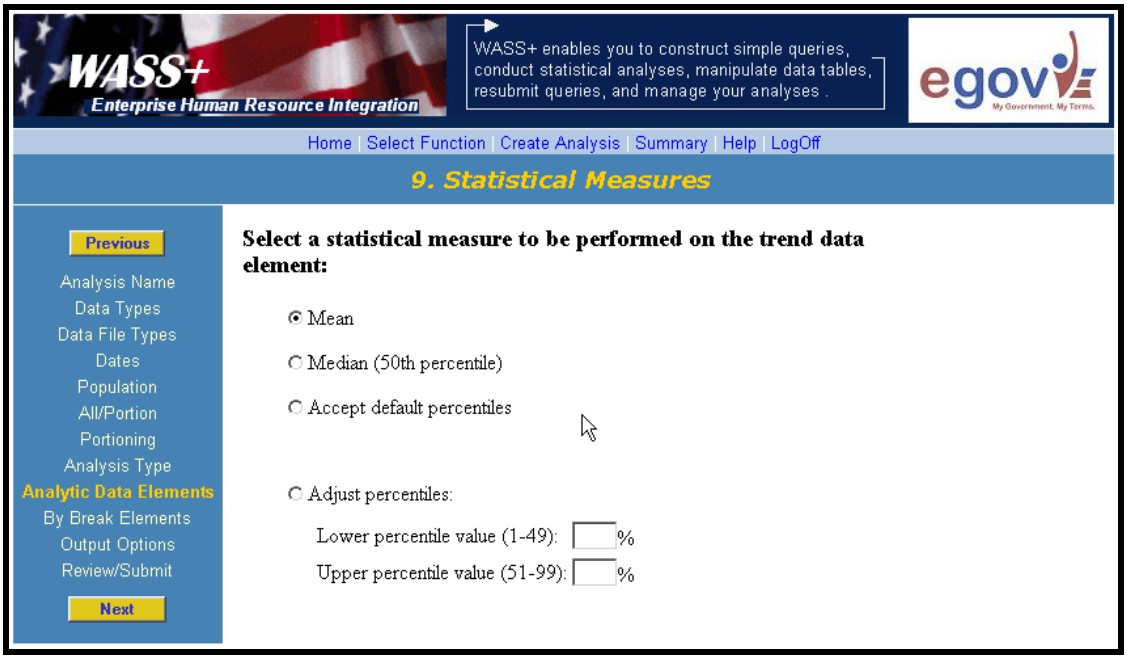
1. If you selected *Counts*, the *Trend Analysis Method* screen appears.
2. If you selected *Data Element*, the *Trend Analysis* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.2.1.1 Data Element (Select Numeric Trend Data Element)

3.7.5.2.1.1.1 Statistical Measures

Statistical Measures Screen



If you select the *Data Element* option, you must select one statistical measure listed in the following table to be performed on the trend data element.

Mean	Include the statistical mean (or "average value") on the output
Median (50th percentile)	Include the statistical median (or "mid-point value") on the output
Accept default percentiles	Include the 5th and 95th percentile values on the output
Adjust percentiles	Include user defined lower and upper percentile values on the output

Menu Instructions

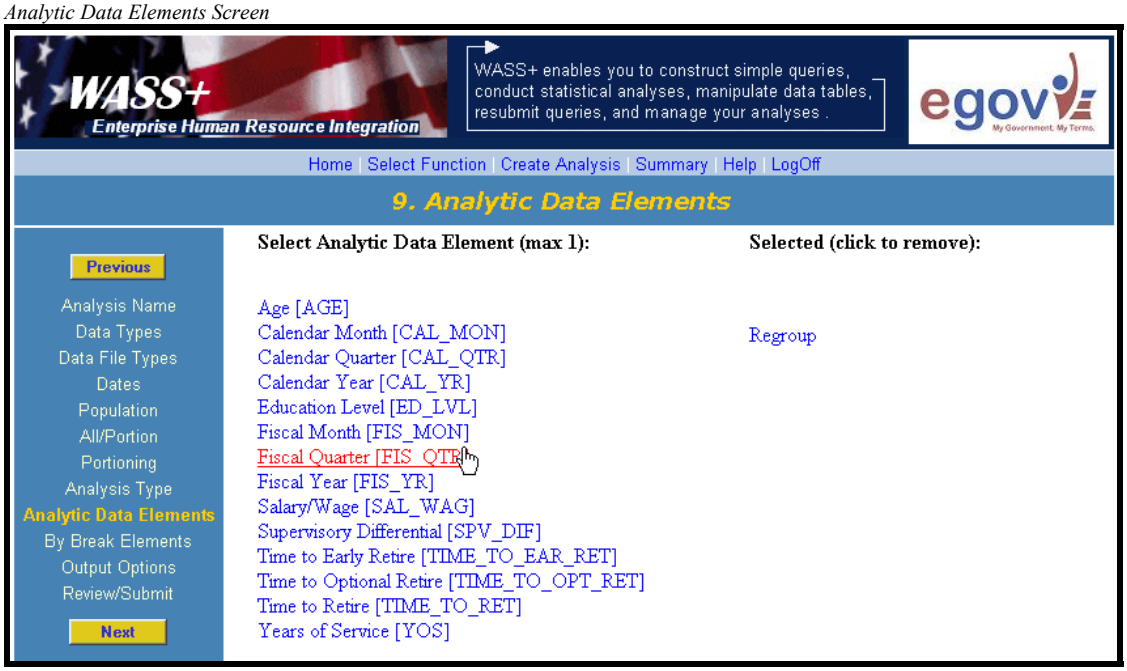
Click ***Previous***. The *Trend Analysis Options* screen appears.

Click ***Next***. The *Analytic Data Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.2.1.1.2 Select Data Element

Analytic Data Elements Screen



On the *Analytic Data Elements* screen, you MUST select the single numeric trend data element that you want to analyze. For example, to analyze the average Salaries of females since 1995, select 'Salary' on this menu.

You may select only one data element from the list of numeric fields provided by WASS+. Note that the analytic data elements must be numeric and that only numeric data elements are presented for selection.

Selecting 1 Analytic Data Element

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected list*.

Deselecting an Analytic Data Element

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Menu Instructions

Click ***Previous***. The *Statistical Measures* screen appears.

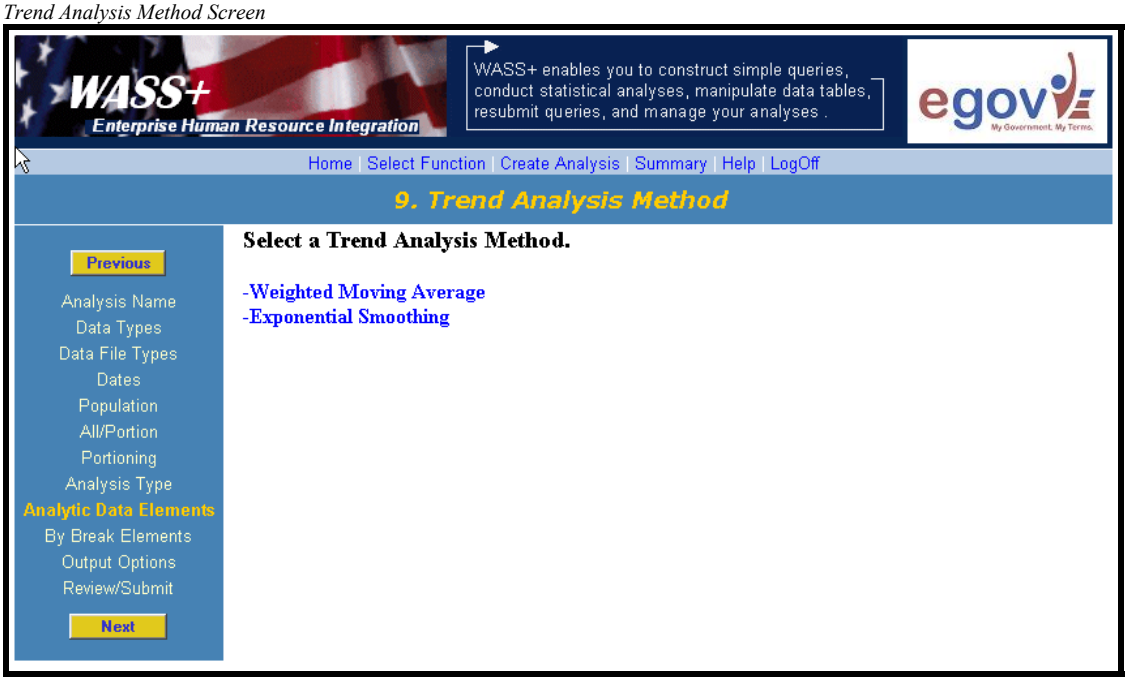
Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.2.1.2 Counts (Strength counts)

3.7.5.2.1.2.1 Trend Analysis Method

Trend Analysis Method Screen



If you select the *Counts* option, use the *Trend Analysis Method* screen to select the trend smoothing method you want to apply:

- Weighted Moving Average
- Exponential Smoothing

Weighted Moving Average
The *Weighted Moving Average* method of smoothing consists of taking a set of observed values, finding the average (after applying a set of user-defined weights), and then using that average as a forecast for the coming period.

The term "moving average" is used because as each new observation becomes available, a new average is computed by dropping the last observation in the average each time the new one is added. If there is considerable randomness in the historical observations, a large number of observations should be used. Conversely, if there is little randomness in the underlying data, a smaller number of observations may be used.

Exponential Smoothing
Exponential Smoothing is a method of smoothing based on averaging past values of a time series in a decreasing manner. Exponential smoothing is well suited for stationary data or data showing a slow growth or decline over time.

Menu Instructions

Click ***Previous***. The *Trend Analysis Options* screen appears.

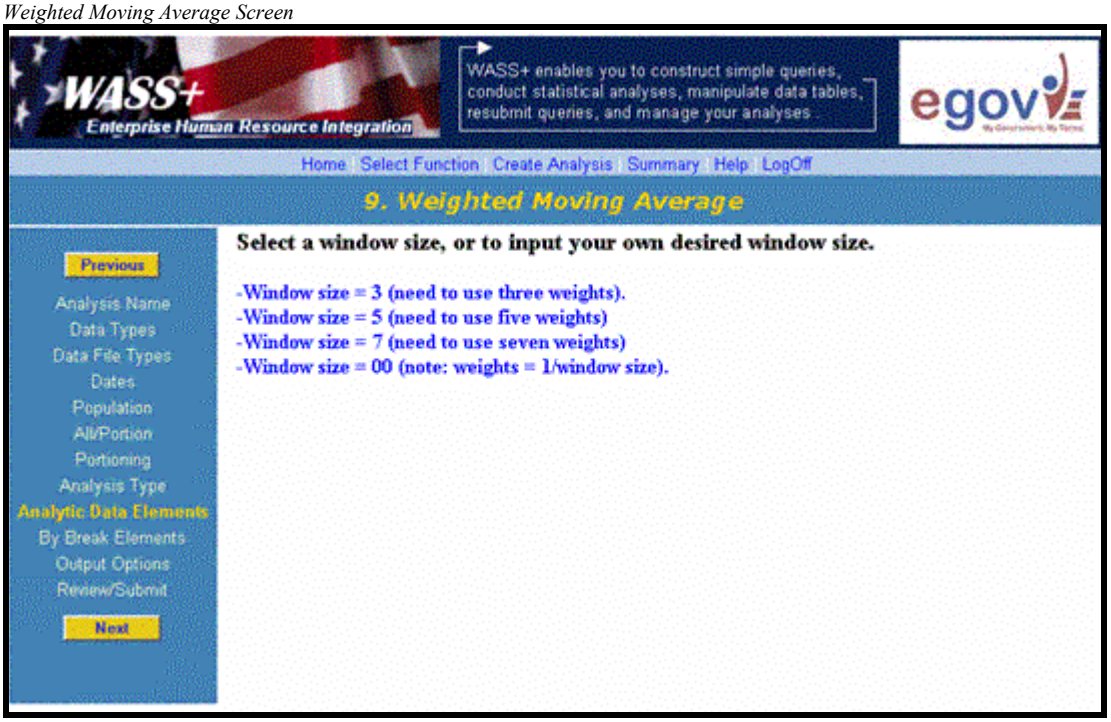
Click ***Next***. If Weighted Moving Average is selected, the *Weighted Moving Average* screen appears.
If Exponential Smoothing is selected, the *Exponential Smoothing* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.2.1.2.1.1 Weighted Moving Average

3.7.5.2.1.2.1.1.1 Weighted Moving Average Window Size

Weighted Moving Average Screen



Select the window size for use in calculating the weighted average. 'Window size = 00' allows you to specify the number of windows. The weights will then be calculated equally as 1/window size.

Menu Instructions

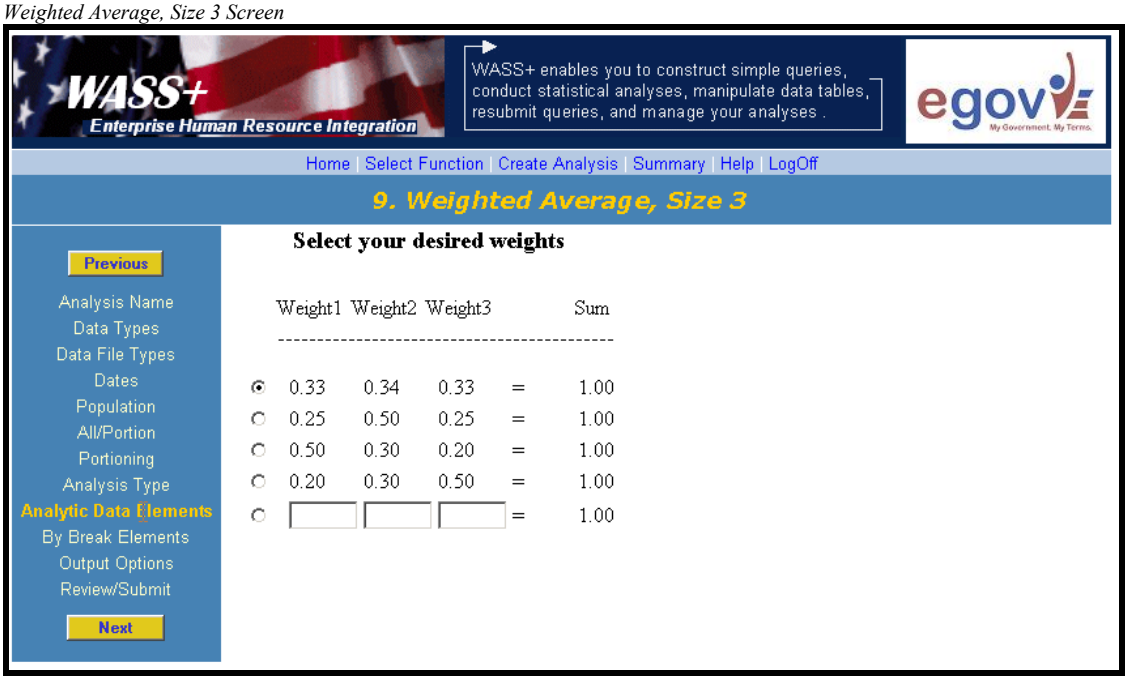
Click ***Previous***. The *Trend Analysis Method* screen appears.

Click ***Next***. The *Weighted Average, Size #* screen appears that corresponds to the window size selected.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.2.1.2.1.1.2 Weighted Moving Average Window Size = 3

Weighted Average, Size 3 Screen



The *Weighted Moving Average* method of smoothing consists of taking a set of observed values, finding the average (after applying a set of user-defined weights), and then using that average as a forecast for the coming period.

The term "moving average" is used because as each new observation becomes available, a new average is computed by dropping the last observation in the average each time the new one is added. If there is considerable randomness in the historical observations, a large number of observations should be used. Conversely, if there is little randomness in the underlying data, a smaller number of observations may be used.

Selecting Weighted Moving Average

1) Click Weighted Moving Average.
2) Click the option button to the left of 'Window size = 3, or 5, or 7' or 'Window = 00' that you want.

Selecting 'Window = 00' allows you to enter a window size in the field provided. If you enter a window size, you may choose any number from 1 to 99. When you enter a window size, WASS+ automatically assigns weights (i.e., weights = 1 / window size).

If 'Window size = 3, or 5, or 7' is selected, the matrix at the right of the screen adjusts accordingly (i.e., if you select 'Window Size = 5', the matrix adjusts to 5 columns plus a *SUM* column).

Menu Instructions

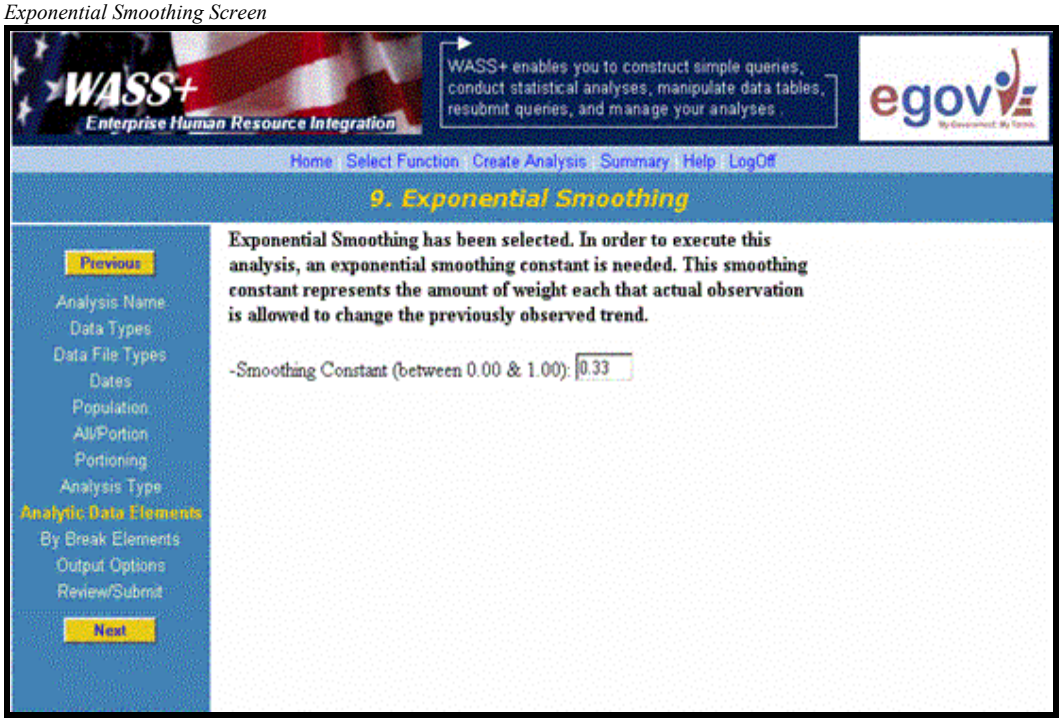
Click ***Previous***. The *Weighted Moving Average* screen appears.

Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.2.1.2.1.2 Exponential Smoothing

Exponential Smoothing Screen



Exponential Smoothing is a method of smoothing based on averaging past values of a time series in a decreasing manner. Exponential smoothing is well suited for stationary data or data showing a slow growth or decline over time.

Selecting Exponential Smoothing

1) Click the option button to the left of *Exponential Smoothing*.
2) Enter a number in the *Smoothing Constant between 0.00 and 1.00* field.

This number can be any number between 0.00 and 1.00. The smoothing constant represents the amount of weight that each actual observation is allowed to change the previously observed trend. Generally, a small value will smooth past data more than a large value and is used for highly fluctuating data. A larger value is used when the data are changing, or when there is some pattern that the forecasting method can detect.

Menu Instructions

Click ***Previous***. The *Trend Analysis Method* screen appears.

Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.2.2 WASS+ Analysis Details

WASS+ Analysis Details
DSF: (insert analysis details for trend.)

The next screen to appear is the *WASS+ Analysis Details* screen, displaying all the aspects of your analysis. You may edit any aspect of the analysis by selecting the particular area you want to edit, and you will advance to that particular screen to make changes. Once you make changes, select ***Next***, and you will return to this screen. Once you are satisfied with the selections made for the analysis, select ***Submit*** to submit your analysis.

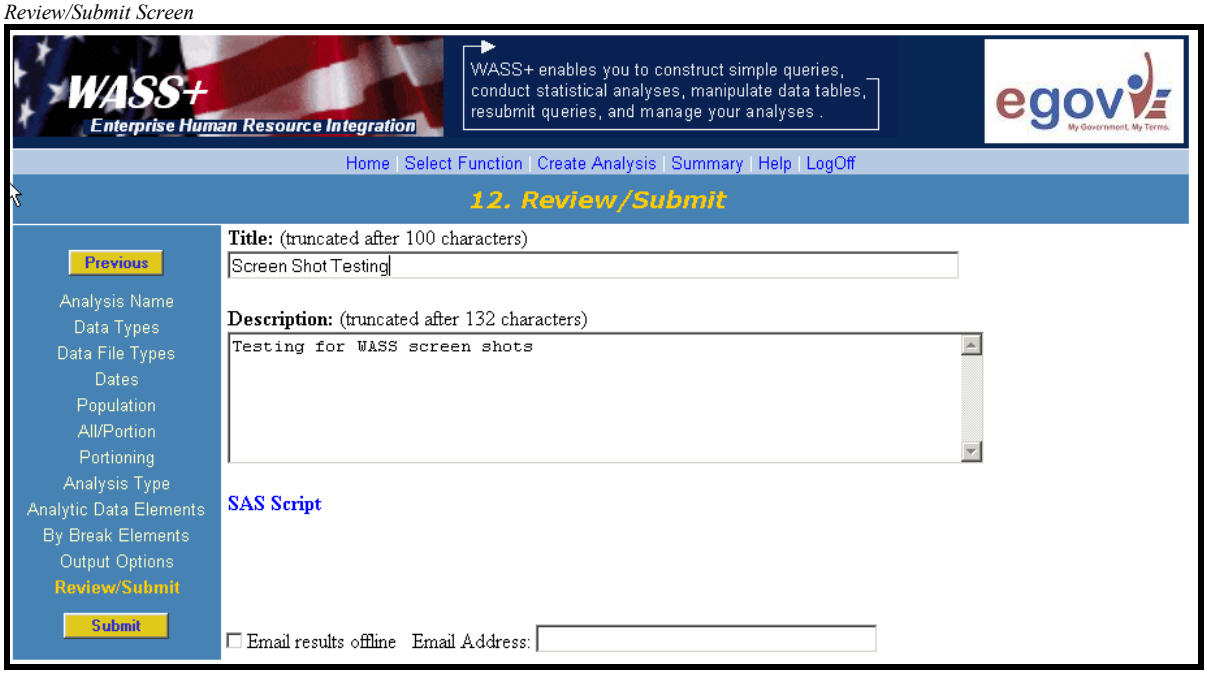
Menu Instructions

Click ***Submit*** to submit your analysis. The *Review/Submit* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

3.7.5.2.3 Review/Submit

Review/Submit Screen



The next screen to appear is the *Review/Submit* screen, displaying the Title and Description for your analysis.

SAS Script
From this screen you can also view the script of the analysis. Click ***SAS Script*** to view the SAS script associated with your analysis.

Email Results/ Email Address
Check the box next to *Email Results Offline* if you wish to have email notification of your analysis results. If you click this box, also place your *Email Address* in the *Email Address* field.

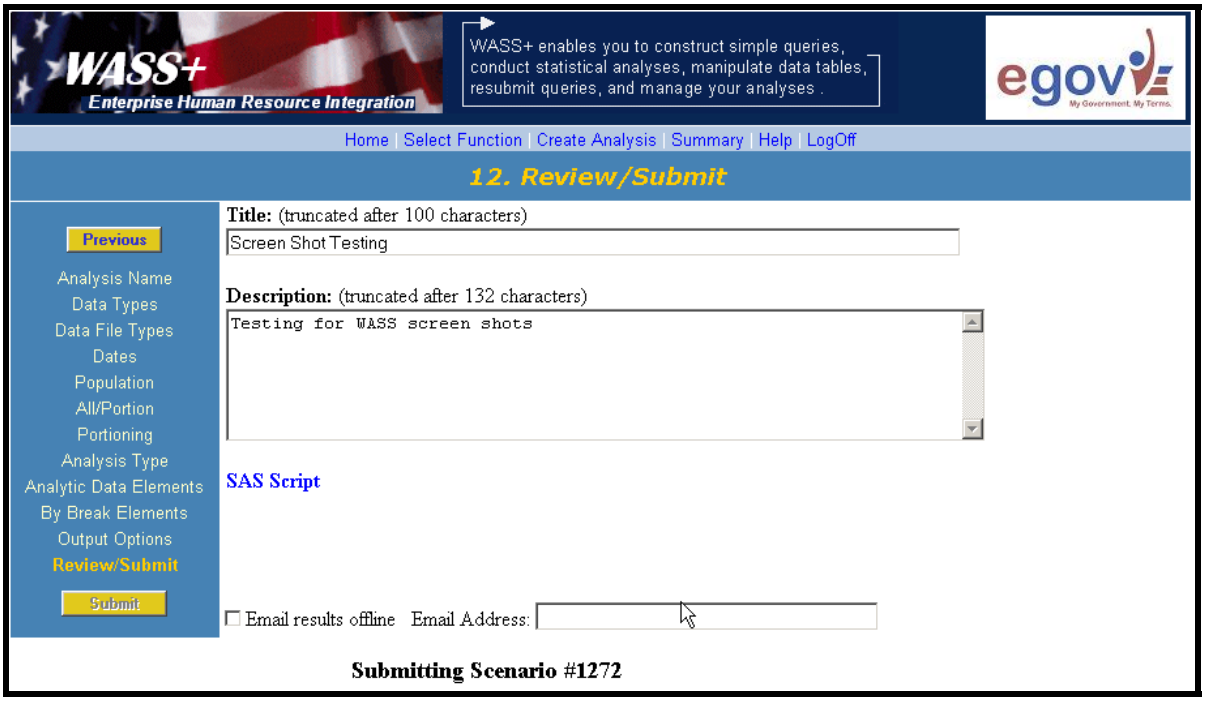
Menu Instructions

Click ***Previous***. The *WASS+ Analysis Details* screen appears.

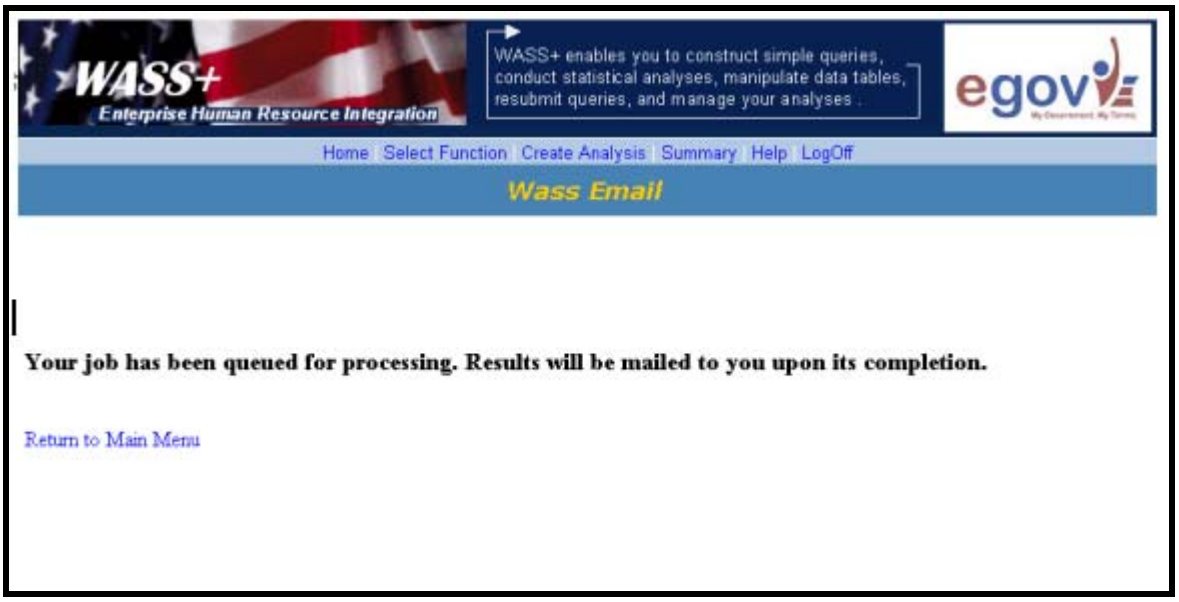
Click ***Submit***. Your analysis has been submitted and your results will either be sent to the email address provided (if you checked the *Email Results Offline* box and provided an *Email Address*) or will be displayed on the screen once the query has completed.

Click ***Help*** to access WASS+ online Help instructions.

Review/Submit Screen



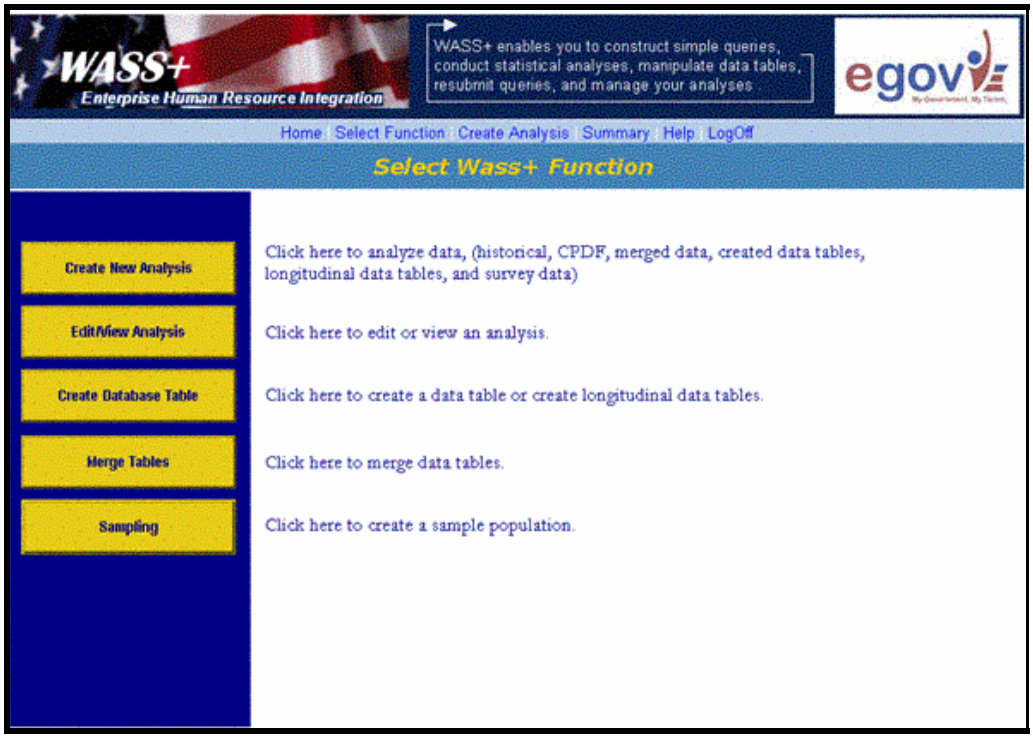
The message *Submitting Scenario* will appear on the screen once the analysis has been submitted. Results will be displayed on the screen once the query has completed.



If the *Email results offline* option is chosen, the message *Your job has been queued for processing. Results will be mailed to you upon its completion* will appear on the screen once the analysis has been submitted.

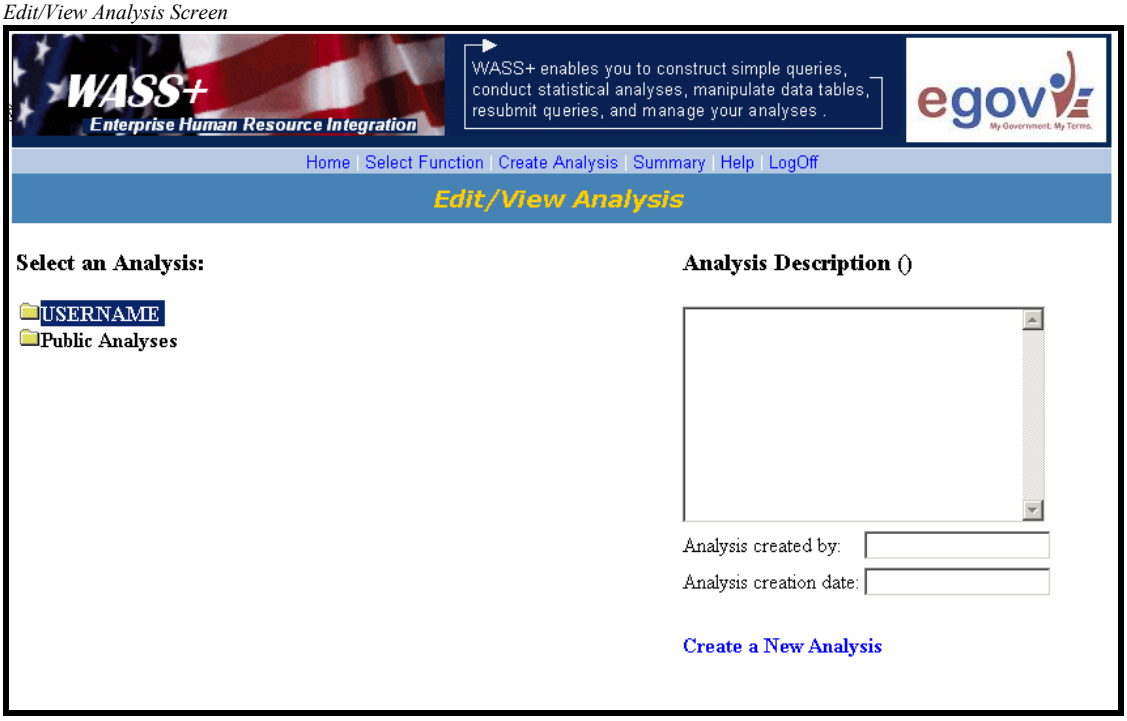
SECTION 4.0 Edit/View Analysis

Select WASS+ Function Screen



Click **Edit/View Analysis** to view an old analysis or to create a new analysis based on an old analysis. The *Edit/View Analysis* screen provides you with basic information about private and public analyses, allows you to view SAS scripts and outputs from existing analyses, and allows you to delete analyses you own. You can also create an analysis based on an existing analysis and then edit the created analysis.

Edit/View Analysis Screen

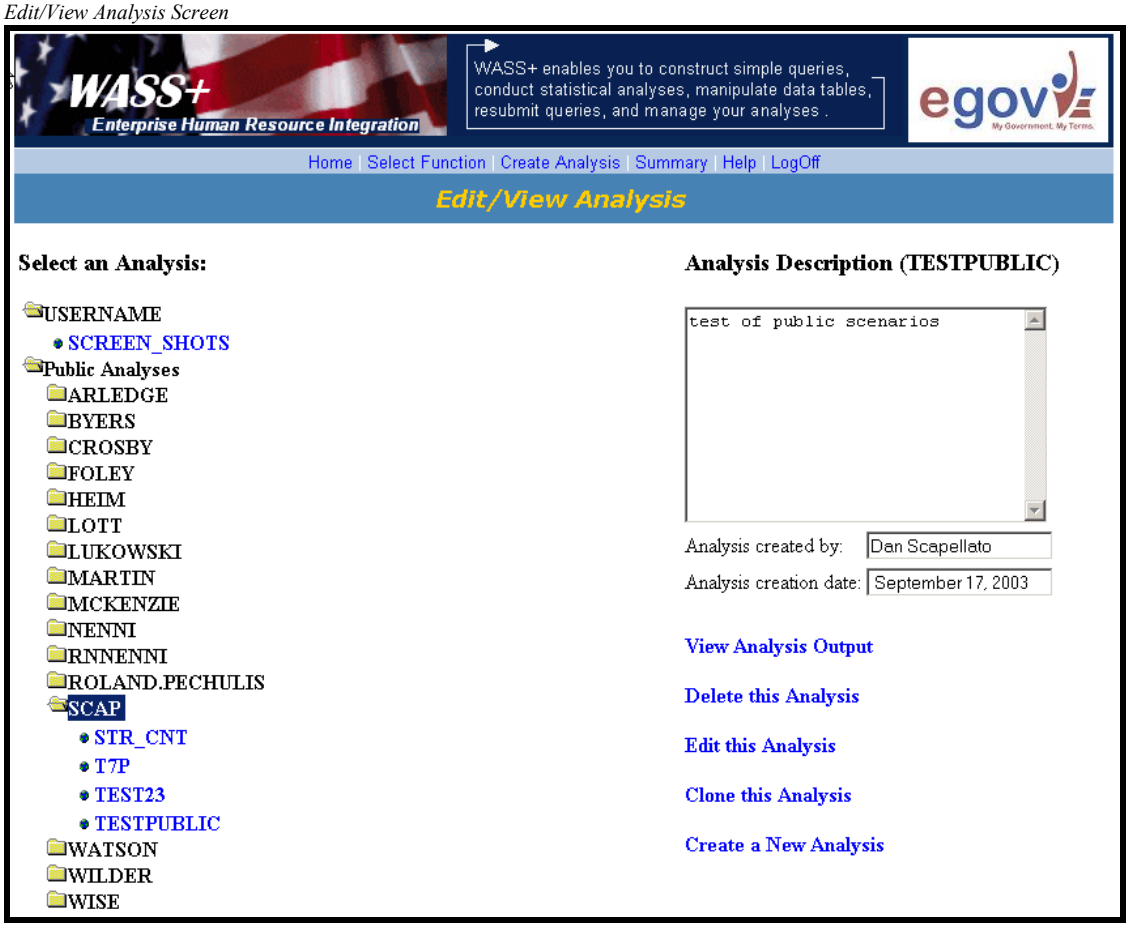


Edit/View Analysis allows you to retrieve and review analytic queries that were previously submitted and/or that were made public by you or other WASS+ users. You may edit an analytic query for resubmission. The edit function is usually quicker than developing a new query for data if you plan to change only one or a few specifications in the previous query. For example, you previously queried for average Age of the Federal Civilian workforce and you now want to query for average Years of Service of the Federal workforce.

Expanding folders

To view all of the analyses created by a user, double click on the folder with their username to expand it. To collapse an expanded list of analyses for any given folder, double click again on the expanded folder.

Edit/View Analysis Screen



Click on the analytic query of interest and descriptive information, the creation date, the owner's name, and description are displayed.

Once an analysis is selected, the following functions will be activated:

- View Analysis Output
- Delete this Analysis
- Edit this Analysis
- Clone this Analysis
- Create New Analysis

4.1 View Analysis Output

View Analysis Output allows you to view the output of the analysis selected.

Menu Instructions

Click ***View Analysis Output***. Results for the analysis chosen are displayed on the screen.

Click ***Help*** to access WASS+ online Help instructions.

4.2 Delete this Analysis

Delete this Analysis allows you to delete any analysis they own (i.e., any analysis that you previously created and that is listed under your User ID). Click **Delete this Analysis** to delete the selected analysis.

Menu Instructions

Click ***Delete this Analysis***. Click ***Yes*** in the dialog box to delete the analysis.

Click ***Help*** to access WASS+ online Help instructions.

4.3 Edit this Analysis

Edit this Analysis allows you to edit any analysis that they own, or any analysis that another user has made public. Select **Edit this Analysis** to change specifications of the analytic query and resubmit it for new results. The edit function is usually quicker than developing a new query for data if you plan to change only one or a few specifications in the previous query. For example, you previously queried for average Age of the Federal workforce and you now want to query for average Years of Service of the Federal Civilian workforce. Another example would be if you simply wish to modify the date selections to obtain query results for a different time period. Use caution when changing the Analysis Type because some analysis types require different types of data elements.

Menu Instructions

Click ***Edit this Analysis***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

4.4 Clone this Analysis

Clone this Analysis allows you to clone any analysis they own, or any analysis that another user has made public. Click **Clone this Analysis** to copy the selected analysis. The system will copy all information from the existing analysis into the new one, prompting you to assign the new analysis a name. You may then view/edit the script, submit the analysis, and view analysis output using the Submit SAS and View Output Menu.

Menu Instructions

Click ***Clone this Analysis***. The *Analysis Name* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

4.5 Create New Analysis

Create a New Analysis allows you to create a new analysis.

Menu Instructions

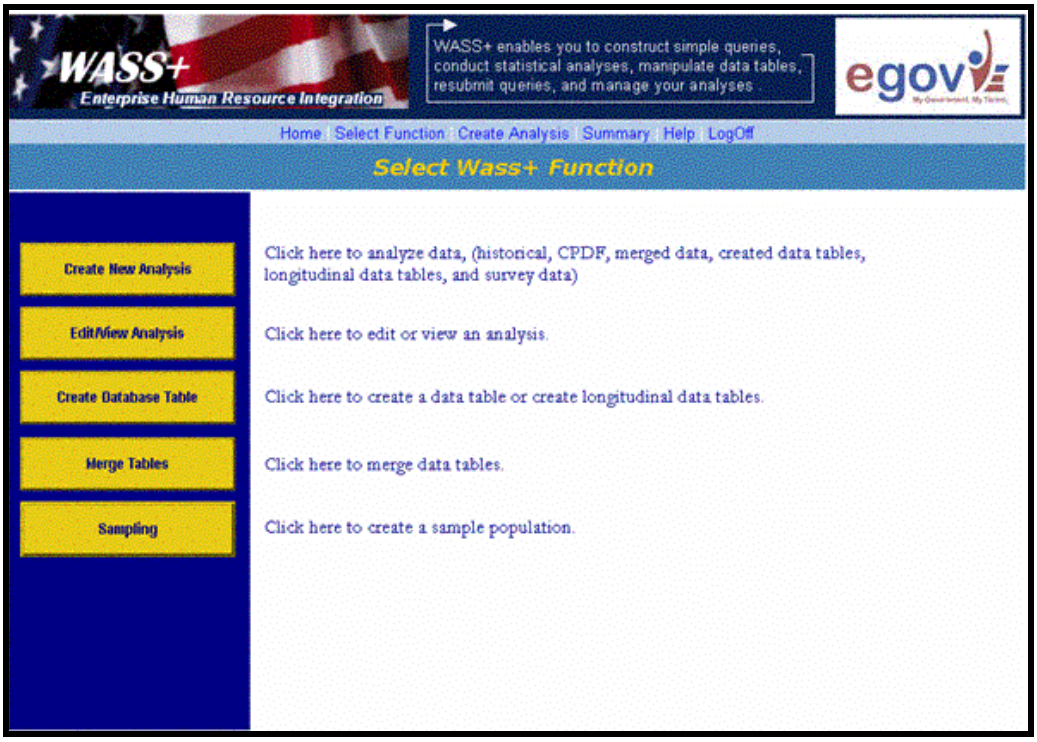
Click ***Create New Analysis***. The *Analysis Name* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

*NOTE: Underlying tables typically exist when an analysis has been based on a user-created or user-loaded table. However, when tables are deleted, any analysis associated with that table is converted to "read only" and cannot be used as a basis for creating analyses.

SECTION 5.0 Create Database Table

Select WASS+ Function Screen

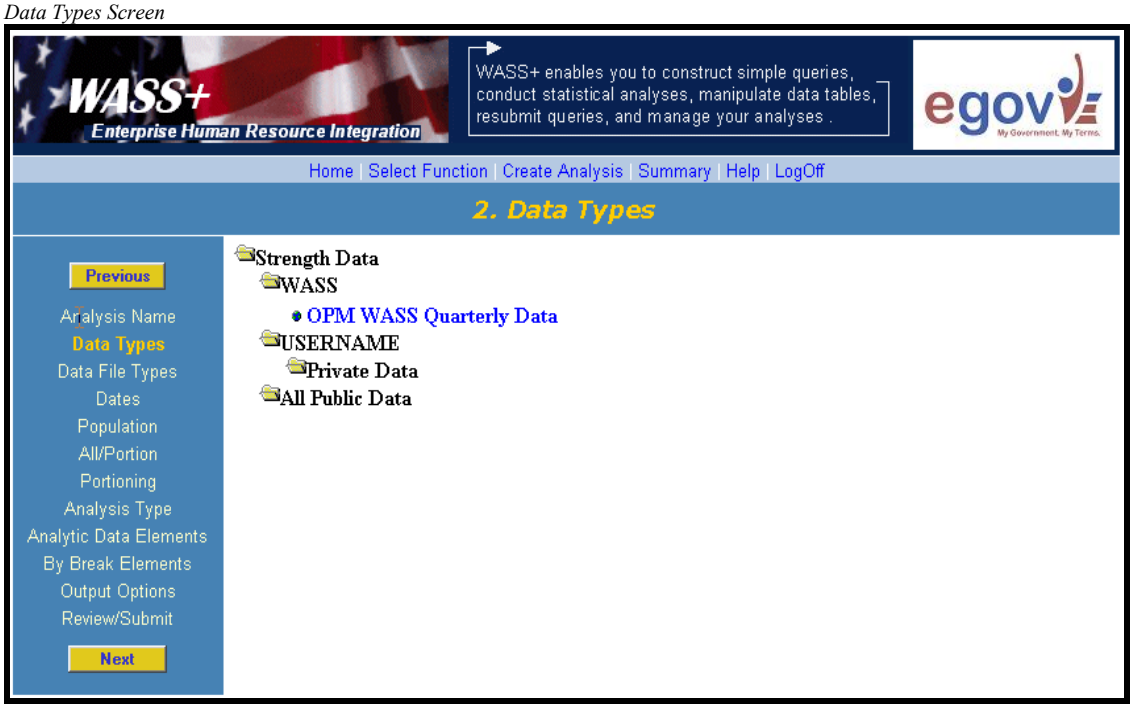


Create Database Table allows you to save data on a population group in a permanent SAS dataset so that the same population can be analyzed at a later time or perform multiple analytic queries against that population.

WASS+ accommodates user-loaded tables in order to perform statistical analysis and other system functionality. Before a table can be uploaded into WASS+, you must provide certain information about the table. This is done through *Create Database Tables.*

5.1 Data Types

Data Types Screen



The next screen to appear is the *Data Types* screen. The *Data Types* screen contains the types of data that are accessible through the system for your analysis. The following data types are available:

- **WASS** – The WASS folder contains *OPM WASS Quarterly Data*. The source of this data is CPDF data feeds from 1994 through the present day.
- **Private Folder** -- The private folder may contain data if you have created tables.
- **All Public Data** – This folder contains data sources that you have made public, along with any data sources other users have made public.

(Note that the usage of the public data is defined by the agency. Business rules will establish who has the ability to make data types public.)

Menu Instructions

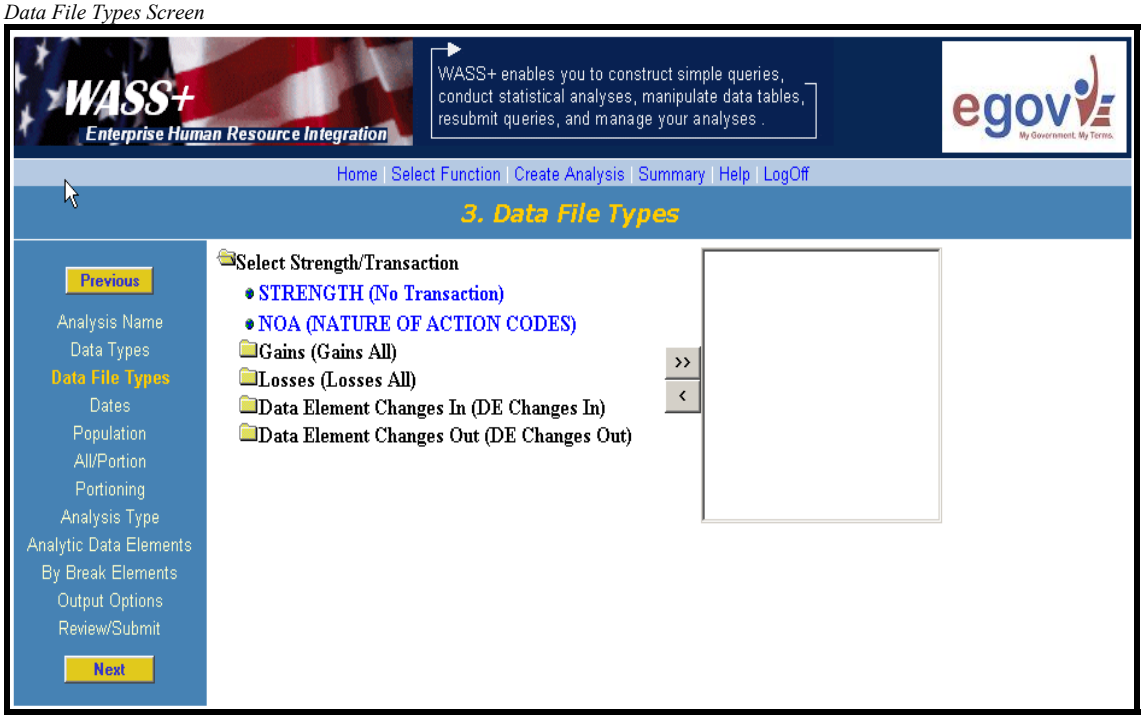
Click ***Previous.*** The *Select WASS+ Function s*creen appears.

Click ***Next***. The *Data File Types* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

5.2 Data File Types

Data File Types Screen



The next screen to appear is the *Data File Types* screen. This screen provides the folders for the available Data File Types:

- Strength
- NOA (Nature of Action Codes)
- Gains
- Losses
- Data Element Changes In/Out

5.2.1 Strength

Strength tables collectively contain historical quarter-end snapshots of the workforce. Not all data elements in the system may be available for the entire time horizon. For a complete list of the strength elements that are available in the system and the dates these elements are available, *see Appendix A: WASS+ Data Element Descriptions and Availability.*

As in almost all strength-based systems, data values that can be extracted from WASS+ strength tables represent workforce information "as of" a particular point in time (i.e., at the end of a given quarter). For example, Strength records that are tagged to quarterly 1998-09 data represent a snapshot of the state of the workforce "as of" the end of that quarter.

Since records are keyed by SSN and data points represent snapshots, all records for a particular point in time are unique (i.e., only one record for any given person exists on any given date).

Menu Instructions

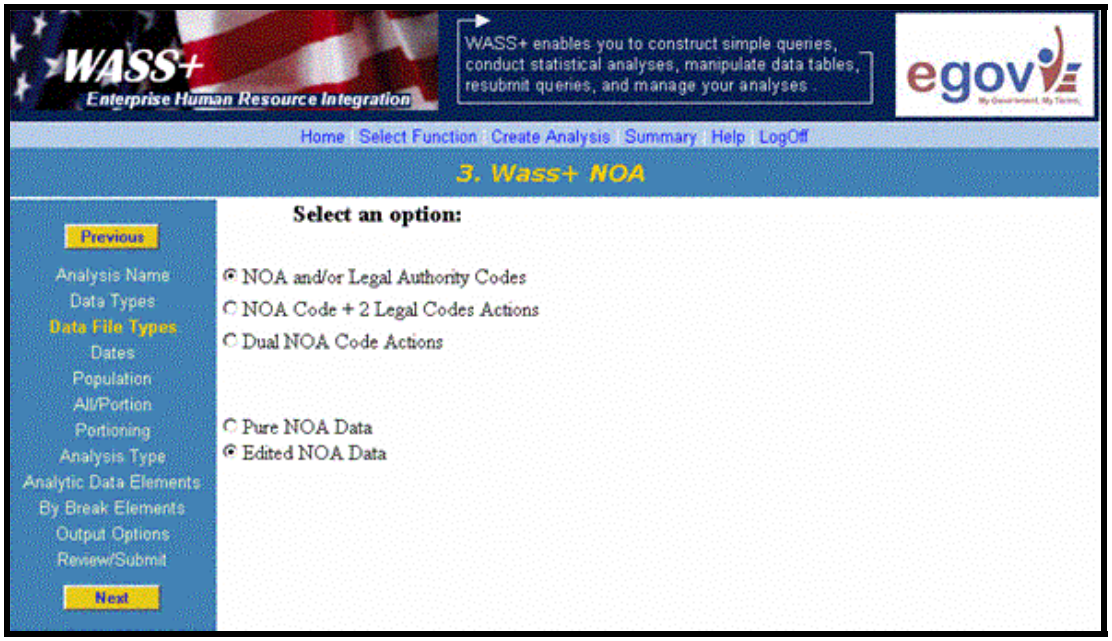
Click ***Previous.*** The *Data Types* screen appears.

Click ***Next***. The *Dates* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

5.2.2 NOA

WASS+ NOA Screen



If you selected *NOA (Nature of Action Codes)* from the *Data File Types* screen, the next screen to appear is *WASS+ NOA* screen.

The Nature of Action (NOA) table contains historical NOA transactions that have been submitted for individuals in the Federal Government Civilian workforce. This information is useful if you want to analyze data for a population group that has experienced a specific personnel action (e.g., Nature of Action Code 888, 'Denial of Within Grade Increase').

As in almost all transaction-based systems, data that can be extracted from the WASS+ NOA table represents events or actions that occurred over a given period of time (i.e., over a given quarter). For example, NOA transactions that are tagged to the quarterly 1998-09 data represent transactions that occurred *during* the quarter from July 1, 1998 through September 30, 1998.

Like Strength records, NOA transactions are keyed by SSN, but because multiple submissions of a given NOA can potentially occur *during* any given quarter, not all records are necessarily unique (i.e., more than one record for a given person can exist for a given date).

The *WASS+ NOA* screen allows you to further define your population group by NOA and Legal Authority Codes and how you want to view NOA data (using either the pure or edited form). You may choose to view all NOA records (with or without matching SSNs) in WASS+ Strength tables (pure), or you may choose to view NOA records that are ALSO found in WASS+ Strength tables (edited).

Use the *WASS+ NOA* screen to make two decisions:

1) Select one of the following three options by clicking the option button to the left of your selection.
   - NOA and/or Legal Authority Codes
   - NOA Code + 2 Legal Codes Actions
   - Dual NOA Code Actions

2) Select one of the two options by clicking the option button to the left of your selection.
   - Pure NOA Data --To view all NOA records (with or without matching SSNs in WASS+ Historical Strength tables), select *Pure NOA Data*. (When strength data elements - e.g., Agency Code, Occupational Series, etc. - are selected to be included in output records, those data elements where a match is found are populated; those data elements without a match are left blank.)
   - Edited NOA Data --To view only those NOA records that are ALSO found in WASS+ Historical Strength tables, select *Edited NOA Data.* (All records not in WASS+ Strength tables are dropped.)

Menu Instructions

Click ***Previous.*** The *Data Types* screen appears.

Click *Next*. Depending on your selection, the appropriate NOA/Legal Code screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

5.2.2.1 NOA and/or Legal Authority Codes

WASS+ NOA/Legal Screen

If you selected the *NOA and/or Legal Authority Codes* option on the *WASS+ NOA* screen, and click ***Next***, the next screen to appear is the *WASS+ NOA/Legal* screen. Use the W*ASS+ NOA/Legal* screen to select NOA and Legal Codes that identify the records you want to analyze.

You have several options for selecting a NOA and Legal Authority Codes:

NOA Code without a Legal Authority Code

Selecting a particular NOA Code without selecting a Legal Authority Code will result in extracting ALL records from the database that contain the particular NOA Code, regardless of the Legal Authority Code value.

Selecting NOA Codes

1) Click a particular NOA Code to highlight it.
2) Click the ***right arrow*** to move the NOA Code to the *Selected Combinations* list.

Deselecting NOA Codes

1) Click the NOA Code in the *Selected Combinations* list.
2) Click ***'X'*** to deselect the NOA Code.
3) When deselected, the NOA Code no longer appears in the *Selected Combinations* list.

NOA Code/Legal Authority Code combination

Selecting a particular NOA Code while also selecting a Legal Authority Code will result in extracting *ONLY* those records from the database that contain *BOTH* the selected NOA code AND the selected Legal Authority Code.

Selecting NOA Codes and Legal Authority Codes

1) Click a particular NOA Code to highlight it.
2) Click the right arrow to move the NOA Code to the *Selected Combinations* list.
3) Click a particular Legal Authority Code to highlight it.
4) Click the ***left arrow*** to move the Legal Authority Code to the *Selected Combinations* list.

Deselecting NOA Codes

1) Click the NOA Code in the *Selected Combinations* list box.
2) Click ***'X'*** to deselect the NOA Code.
3) When deselected, the NOA Code no longer appears in the *Selected Combinations* list.

Deselecting Legal Authority Codes

1) Click the Legal Authority Code in the *Selected Combinations* list box.
2) When deselected, the Legal Authority Code no longer appears in the *Selected Combinations* list.

Legal Authority Code Only

Selecting a particular Legal Authority Code without selecting a NOA Code will result in extracting ALL records from the database that contain the particular Legal Authority Code, regardless of the NOA Code value.

Selecting Codes

1) Check the *Select Legal Authority Codes Only* checkbox.
2) Click the Legal Authority Code in the *Selected Combinations* list.
3) Click the ***left arrow*** to move the Legal Authority Code to the *Selected Combinations* list.

Deselecting Codes

1) Click the Legal Authority Code in the *Selected Combinations* list box.
2) When deselected, the Legal Authority Code no longer appears in the *Selected Combinations* list.

You may select an unlimited number of NOA Code, Legal Code, and NOA/Legal Code Combinations. Each selection adds records to the output data set (is treated as an "OR" condition). For example, suppose that NOA codes 130 and 132 have been selected and moved into the *Selected Combinations* list. The resulting output table would contain all NOA records containing either a NOA Code of 130 or a NOA Code of 132. If there were 20 records containing NOA Code 130 and 40 records containing NOA Code 132, the resulting output table would contain 60 records. These records could be analyzed either as a single group or as a separate group (by selecting NOA Code as an analytic or by break element).

Menu Instructions

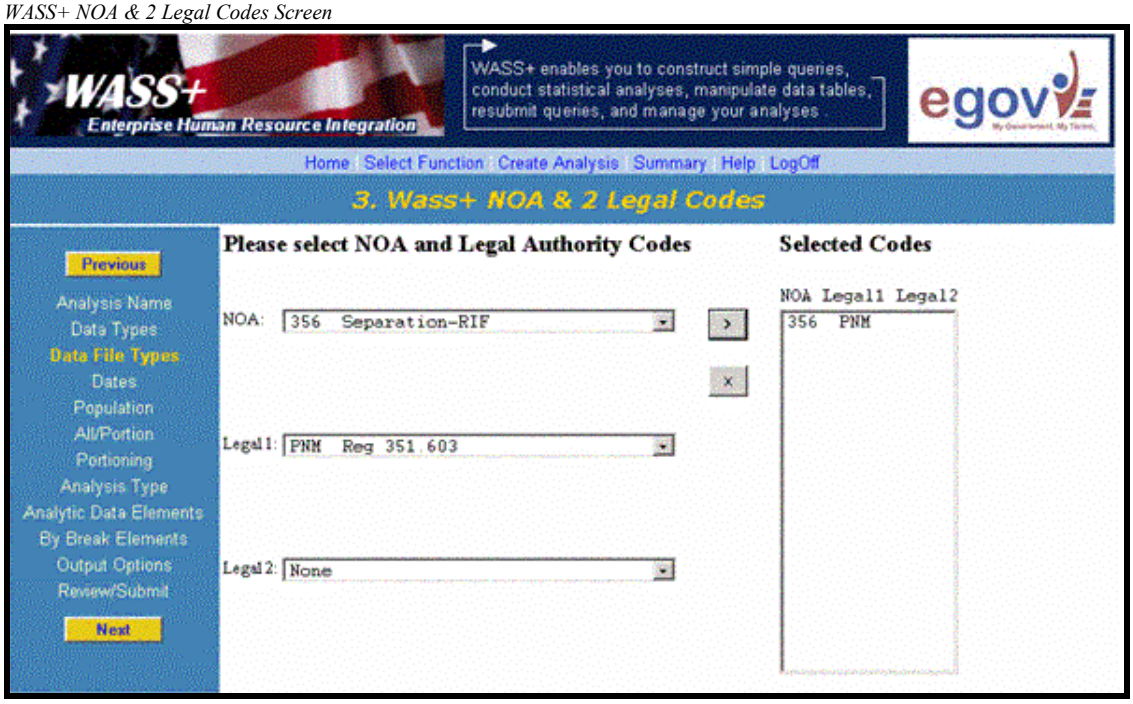
Click ***Previous***. The *WASS+ NOA* screen appears.

Click ***Next***. The *Dates* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

5.2.2.2 NOA Code + 2 Legal Codes Actions

WASS+ NOA & 2 Legal Codes Screen



If you selected *NOA Code + 2 Legal Codes Actions* from the *WASS+ NOA* screen, the next screen to appear is the WASS+ *NOA & 2 Legal Codes* screen. Use the *WASS+ NOA & 2 Legal Codes* screen to enter your own list of NOA Codes, Legal Authority Codes or NOA/Legal Authority Code combinations.

Using the *WASS+ NOA & 2 Legal Codes* screen, you may

- Select two Legal Authority Codes (i.e., Legal1 and Legal2) for a given NOA code.
- Select any combination of NOA, Legal1, and Legal2 codes (i.e., ALL codes are optional).

Selecting NOA Codes and/or Legal Authority Codes

1) Select the NOA Code and Legal Authority Code combinations by selecting the codes from the pull down menus.
2) Click on the ***right arrow*** to move the selected code combinations to the *Selected Codes* list.

Deselecting Codes

1) Click the NOA Code / Legal Authority Code combination in the *Selected Codes* list.
2) Click ***'X'*** to deselect the combination.
3) When deselected, the Combination no longer appears in the *Selected Codes* list.

Any Combination of Codes can be a Selection.
Any combination of codes may be chosen as a selection. Each code acts as a constraint when records are extracted from the database. For example, if you choose a particular NOA code (e.g., 356), only records containing that NOA code will be extracted. If a Legal1 or a Legal2 code is not chosen, Legal codes will not act as constraints. Therefore, all records with a NOA code of 356 will be extracted, regardless of any Legal1 or Legal2 codes associated with the records. However, if you define a Legal1 code (e.g., PNM), only those records meeting BOTH conditions will be extracted (e.g., NOA code of 356 and Legal1 code of PNM).

An Unlimited Number of Selections.
An unlimited number of NOA Code, Legal Code, and/or NOA/Legal Code combinations can be selected. Each selection adds records to the output dataset (is treated as an "OR" condition). For example, suppose that NOA codes 130 and 132 have been selected and moved into the Selected Codes box. The resulting output table would contain all NOA records that included either a NOA Code of 130 or a NOA Code of 132. If there were 20 records containing Code 130 and 40 records containing code 132, the resulting output table would contain 60 records. These records could then be analyzed as either a single group or as a separate group (by selecting the NOA Code as an analytic or by break element).

Menu Instructions

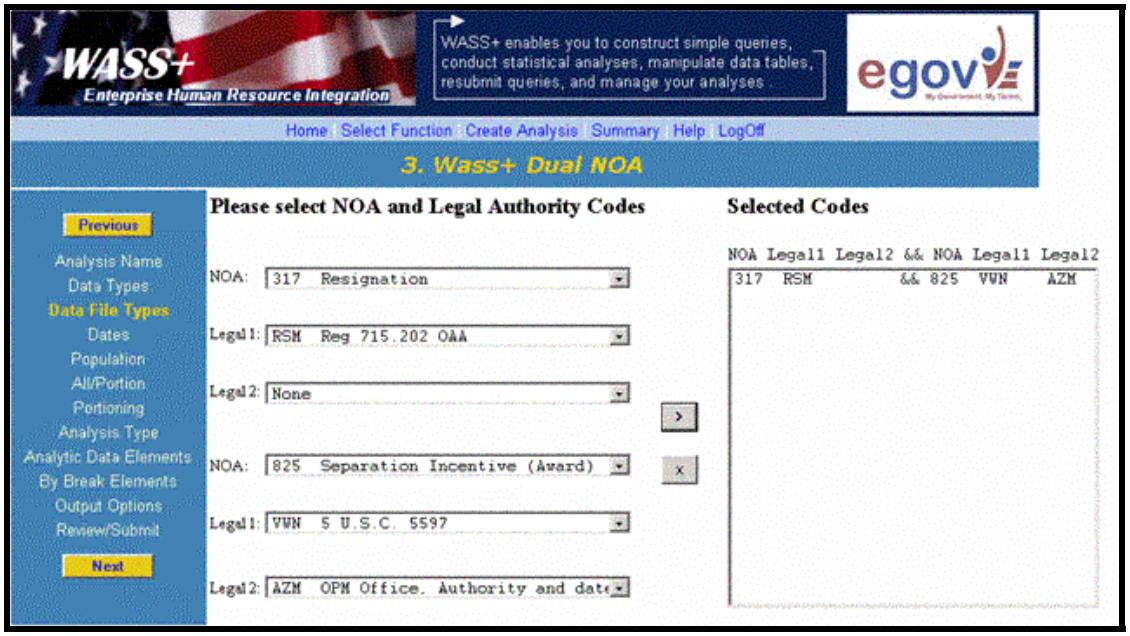
Click ***Previous***. The *WASS+ NOA Codes* screen appears.

Click ***Next***. The *Dates* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

5.2.2.3 Dual NOA Code Actions

WASS+ Dual NOA Screen



If you selected the *Dual NOA Code Actions* option on the *WASS+ NOA* screen, the next screen to appear is the *WASS+ Dual NOA* screen. Use the *WASS+ Dual NOA* screen to select your own combinations of NOA Codes or NOA/Legal Code combinations.

The *WASS+ Dual NOA* screen is similar to the *WASS+ NOA/Legal* screen - except that you can (and must) enter two NOA codes. Use this screen when you want to extract records that represent dual NOA actions. The Legal1 and Legal2 codes for each NOA code are optional, and they act as additional constraints—just as is true for the *WASS+ NOA/Legal* screen.

Selecting NOA Codes and/or Legal Authority Codes

1) Select two NOA Codes by selecting the codes from the pull down menus.
2) If desired, select Legal Authority Codes by selecting the codes from the pull down menus.
3) Click on the ***right arrow*** to move the selected code combinations to the *Selected Codes* list.

Deselecting Codes

1) Click the NOA Code / Legal Authority Code combinations in the *Selected Codes* list.
2) Click ***'X'*** to deselect the combination.
3) When deselected, the Combination no longer appears in the *Selected Codes* list.

An unlimited number of dual NOA code and/or dual NOA/Legal combinations can be selected. Each selection adds records to the output dataset (is treated as an "OR" condition).

Menu Instructions

Click ***Previous***. The *WASS+ NOA* screen appears.

Click ***Next***. The *Dates* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

5.2.3 Gains, Losses, Data Element Changes

Transaction tables contain summary records of historical personnel actions or data elements changes that have occurred for each employee. Making quarter-to-quarter comparisons of each employee's personnel record identifies these "transactions". Results from these comparisons can be classified into three major subgroups:

- **Gain Transactions** – Occur when an individual was not in the previous quarter's strength file but is in the current quarter's strength file.
- **Loss Transactions** – Occur when an individual was in the previous quarter's strength file but not in the current quarter's strength file.
- **Data Element Changes** – Occur when an individual is in both quarter's strength files, but certain key data elements (e.g., Pay Grade, Agency, etc.) have changed.

These three categories of transaction data are further explained in **Section 3.3.3**.

Menu Instructions

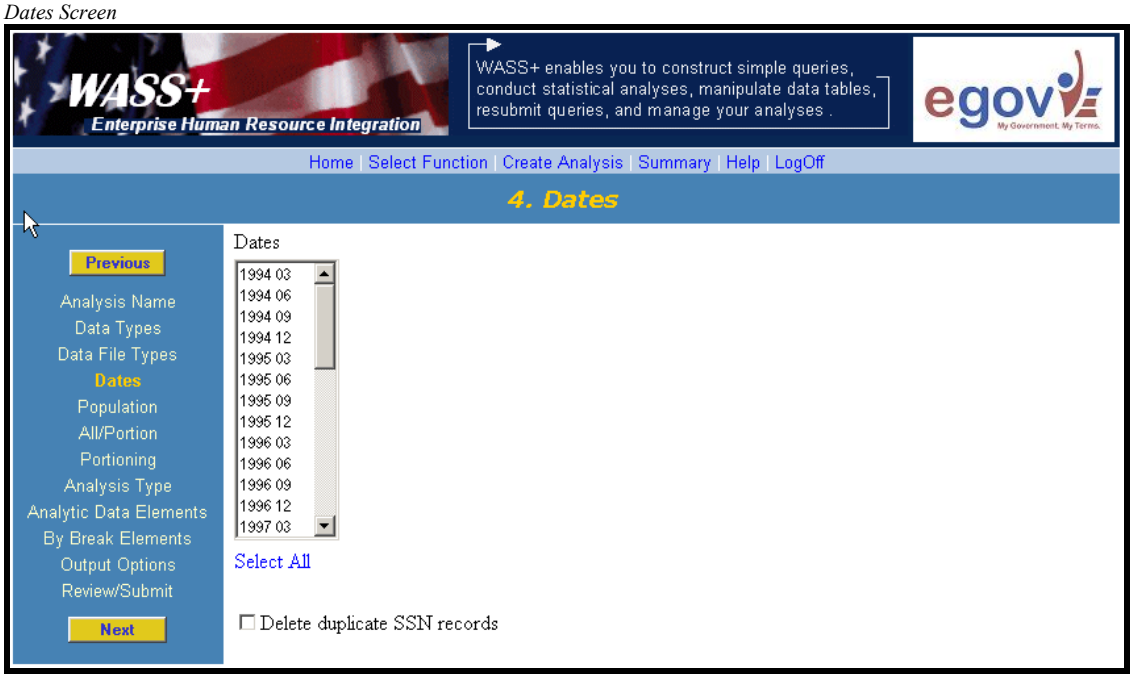
Click ***Previous***. The *Data Types* screen appears.

Click ***Next***. The *Dates* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

5.3 Dates

Dates Screen



The next screen to appear is the *Dates* screen. The values displayed in the *Dates* list are those date groups available in the selected table. For quarterly tables, the date range spans from 1994-03 to the present date. When processing WASS+ historical tables, one or more date selections must be made to continue processing.

Selecting Dates

- To select dates for analysis, click on the appropriate "YYYY MM" values in the *Dates* list to highlight dates.
- To select all dates, click *Select All* at the bottom of the *Dates* list.

Deselecting Dates

- To deselect dates, click again on the highlighted dates in the *Dates* list to remove the highlight.

Selecting Date Groups

The number of date groups you select depends on the analysis you wish to perform. For example, if you want to analyze the difference between the average performance appraisal ratings for the quarter ending December 1995 and December 2000, select only those two dates. If you want to analyze data elements over a ***continuous period*** of time (e.g., the difference in salaries between males and females from 1994 to the present) to evaluate trends, click *Select All*.

Processing time is highly dependent on the number of dates selected. Additional date groups require additional processing time for the system to produce analysis results.

Delete Duplicate SSN Records

Placing a checkmark in the *Delete Duplicate SSN Records* checkbox enables you to avoid multiple occurrences of SSN records in a given output table. Multiple occurrences can occur when all records for a given time period are not necessarily unique (as is the case with NOA tables), or when multiple time periods have been selected.

The usefulness of this feature depends on the types of questions being asked. For example, the total *number of promotions* occurring in an organization over a time period (e.g., FY1995-FY1998) could be different from the total *number of "people"* who were promoted in that organization over the same time period. (Some people could have been promoted more than once.) Therefore, *Delete Duplicate SSN Records* allows you to exclude multiple SSN records from your output table, limiting your query results to unique individuals. When this feature is activated, the system keeps the first record encountered for the SSN and discards all duplicates.

Menu Instructions

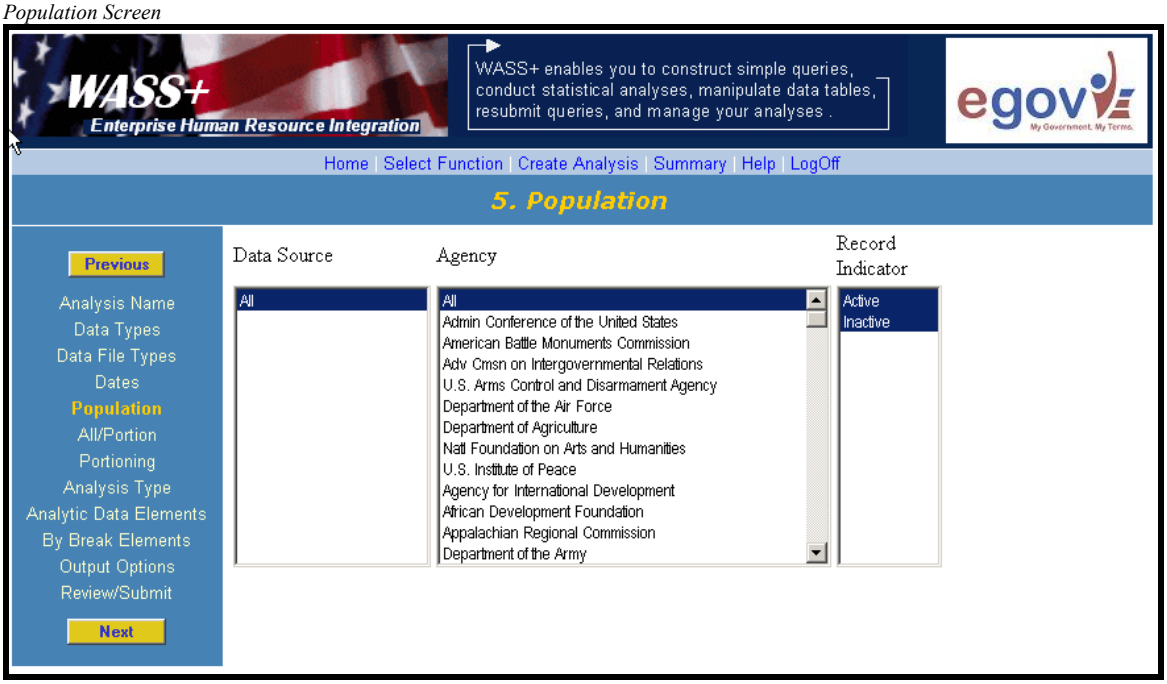
Click ***Previous***. If you selected *NOA* from the *Data File Types* screen, the appropriate NOA screen will appear. Otherwise, the *Data File Types* screen appears.

Click ***Next***. The *Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

5.4 Population

Population Screen



The next screen to appear is the *Population* screen.

Agency
Choose the agency or agencies to include in the population. If all agencies are to be analyzed, select 'All'.

Work Schedule
The Work Schedule values are 'Full-Time', 'Full-Time Seasonal', 'Intermittent', 'Intermittent Seasonal', 'Part-Time', Part-Time Seasonal', 'Part-Time Job Sharer', and 'Part-Time Seasonal Job Sharer'. Choose work schedule to further define the population. If all work schedules are to be analyzed, select 'All'.

Record Indicator
The Record Indicator values are 'ACTIVE' and 'INACTIVE'. The 'ACTIVE' flag identifies all records with an Active/Inactive Strength Indicator code of '1' (Active-Regular Employment) or '2' (Active-Special Employment). The 'INACTIVE' flag identifies all records with an Active/Inactive Strength Indicator code of '4' (Inactive-Non-Strength Accountable).

At least one value of record indicator must be selected. Both values can be selected if you desire to simultaneously analyze both population groups. In the latter case, the 'Record Indicator' can be selected later as an analytic or by break element to identify these records distinctly in the resulting analysis.

Menu Instructions

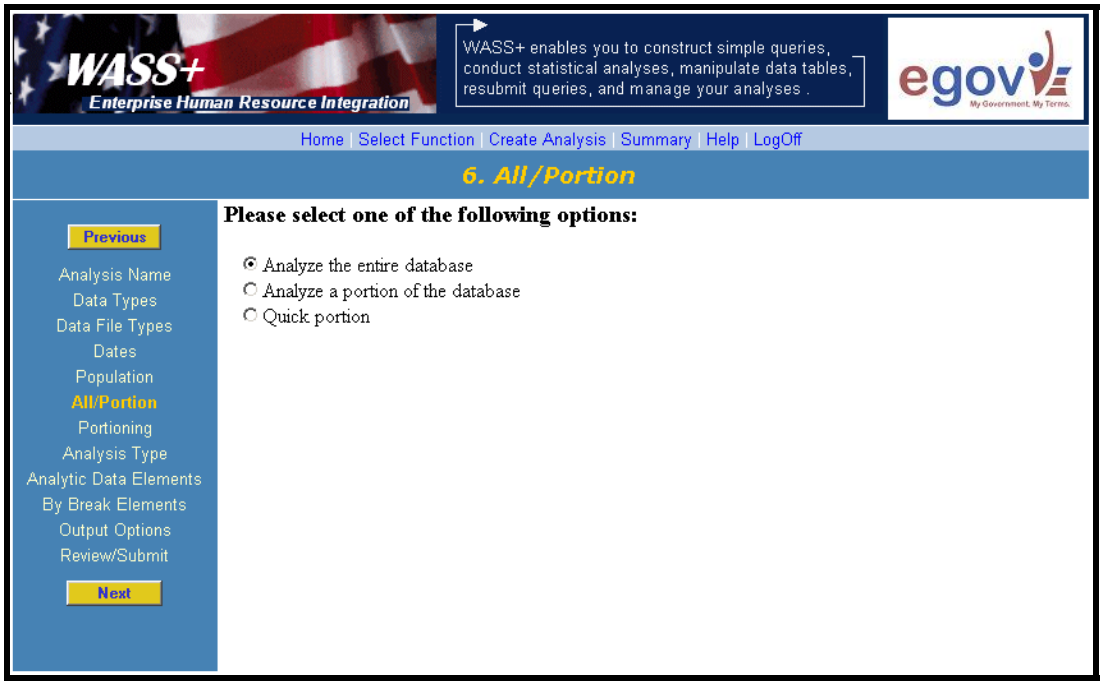
Click ***Previous***. The *Dates* screen appears.

Click ***Next***. The *All/Portion* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

5.5 All/Portion

All/Portion Screen



The next screen to appear is the *All/Portion* screen. Use the *All/Portion* screen to make decisions regarding the type and size of population group for an analysis. Select one of the following three options by clicking the option button to the left of your selection.

- Analyze the entire database
- Analyze a portion of the database
- Quick portion

Historical Database Population Groups

- Use the ***entire*** option to conduct an analysis on the entire population group defined on the *Population* screen. For example, if you select a WASS+ Strength table, you could analyze the difference in the average Age of males versus females for the entire workforce. If you select a transaction type in the *Data File Types* screen (e.g., voluntary separations), the ***entire*** option enables you to analyze all employees who have voluntarily separated.

- Use the ***portion*** option to conduct an analysis on a portion (or subset) of the population group defined in the *Population* screen. The *Portioning* screen prompts you to identify data elements and values for the portion of the database you select. For example, if you select a WASS+ Strength table and want only the Department of the Treasury agency, Pay Grades 9 through 15, you would select the data elements, Agency and Pay Grade, and codes on this tab to identify the portion of the database you want to analyze.

- Use the ***quick portion*** option to conduct an analysis on a commonly defined portion of the population group defined in the *Population* screen. The *Quick Portion* screen allows you to portion the population on either Occupational Category and/or Employee Tenure.

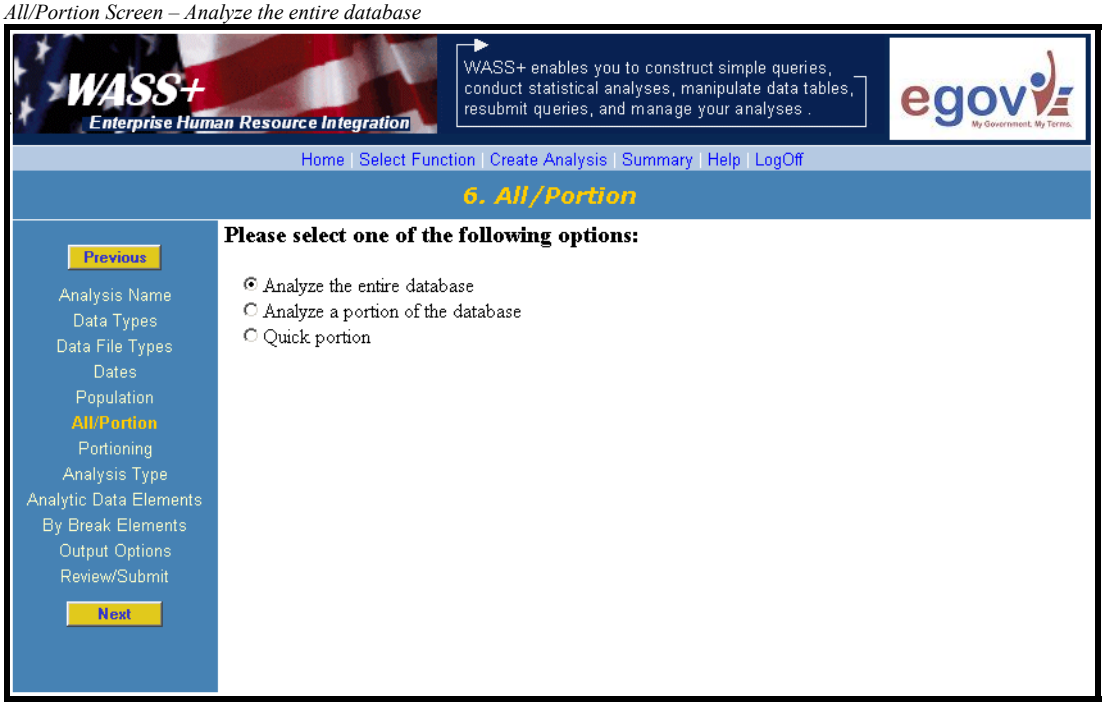
Auxiliary Database Population Groups (a population group created from a non-historical table, e.g. user-loaded table)

- Use the ***entire*** option to conduct an analysis on the entire database. If your data is from a survey of 100,000 employees, this option allows you to analyze ALL 100,000 employees in the database.

- Use the ***portion*** option to conduct an analysis on a portion of the database that you identify. For example, if you have data from a survey of 100,000 employees and you want only to analyze data for employees who respond "yes" to a particular question, select this option in the *Portioning* screen.

5.5.1 Analyze the ENTIRE Database

All/Portion Screen – Analyze the entire database



Selecting *Analyze the entire database (*the default) enables you to analyze your entire population group (e.g., all records are included in the analytic query).

Menu Instructions

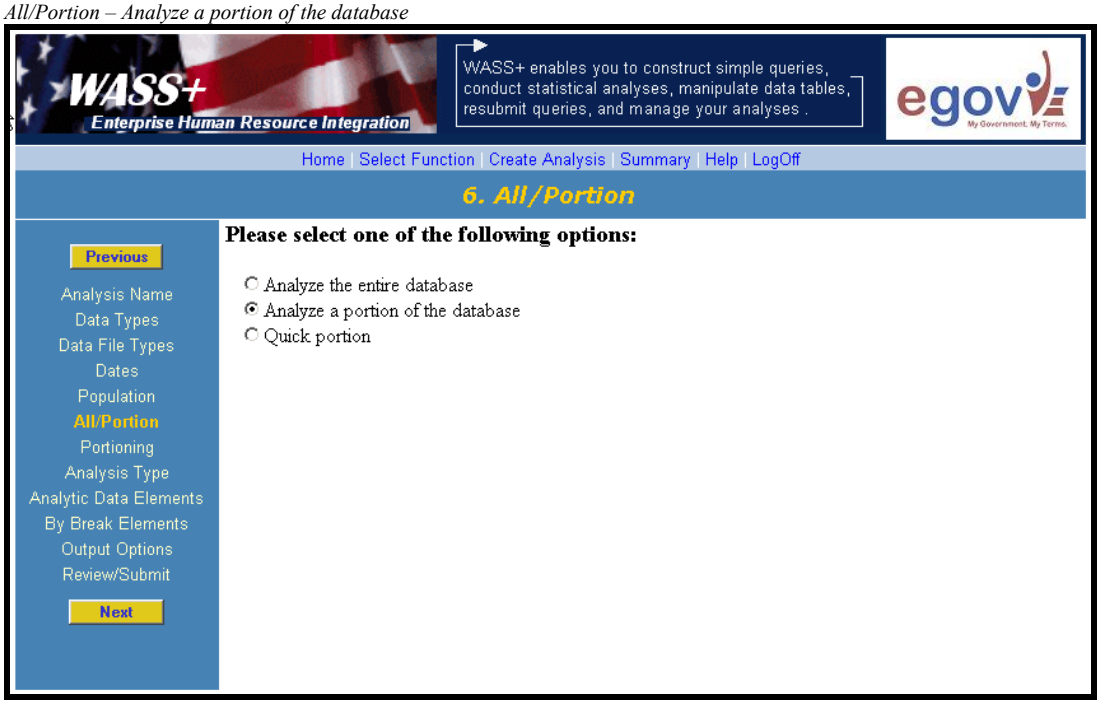
Click ***Previous***. The *Population* screen appears.

Click ***Next***. The *Analysis Type* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

5.5.2 Analyze a Portion of the Database

All/Portion – Analyze a portion of the database



Selecting *Analyze a portion of the database* enables you to analyze a self-defined portion of a population group. Selecting this option also requires that you make further selections on the *Portioning* screen.

Menu Instructions

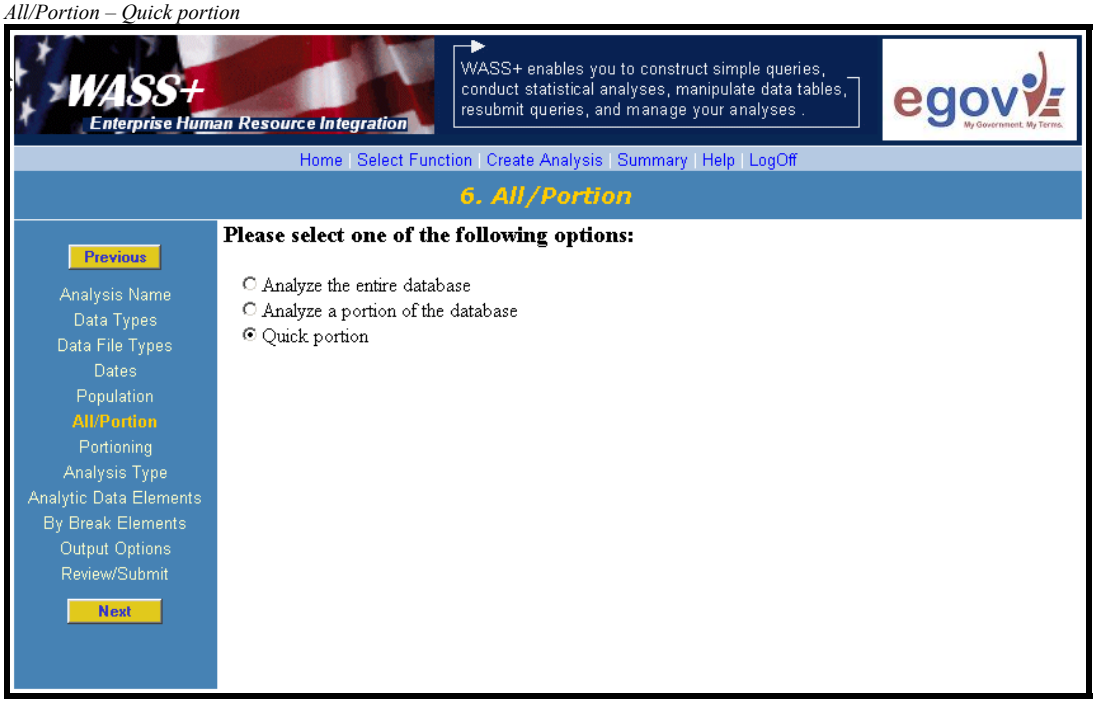
Click ***Previous***. The *Population* screen appears.

Click ***Next***. The *Portioning* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

5.5.3 Analyze a Quick Portion of the Database

All/Portion – Quick portion



Selecting *Quick Portion* enables you to select predefined portions of the selected population.

Menu Instructions

Click ***Previous***. The *Population* screen appears.

Click ***Next***. The *Portioning* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

5.6 Portioning

Portioning Screen

If you select *Analyze a portion of the database* from the *All/Portion* screen, the next screen to appear is the *Portioning* screen. The *Portioning* screen enables you to conduct an analysis on any segment of the database. For example, if you selected quarterly data, you might limit your query to a particular Agency and range of Pay Grades—for example, the Department of the Treasury agency, Pay Grades 9 through 15. You would select only those particular data elements and codes in order to identify the portion of the historical database you want to analyze. All available data element codes are contained in the individual *Available Portion Elements* folders.

Expanding Folders

To expand a folder, double-click on the folder. To collapse an expanded list of data element values for any given *Available Portion Element*, double-click again on the expanded folder.

Selecting Codes (from expanded list)

1) Click the data element value in the *Available Portion Elements* list.
2) Once selected, the data element value appears in the *Selected Portion Elements* list.

Selecting Multiple Codes (from expanded list)

1) Hold down the *Shift* key.
2) Click on the top data element value desired from the *Available Portion Elements* folder.
3) Click on the last data element value desired from the *Available Portion Elements* folder.

Deselecting Codes

1) Click the selected data element value in the *Selected Portion Elements* list.
2) When deselected, the data element value no longer appears in the *Selected Portion Elements* list.

Menu Instructions

Click ***Previous***. The *All/Portion* screen appears.

Click ***Next***. The *Choose Data Elements* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

5.7 Choose Data Elements

Choose Data Elements Screen

The next screen to appear is the *Choose Data Elements* screen. Use the *Choose Data Elements* screen to select the data elements you want included in the table. For example, if you wanted to analyze Pay Grade 10 retirements in 1999, you would add Pay Grade to the new data table.

Selecting Data Elements

1) Click to highlight the data element in the *Available Data Elements* list.
2) Once selected, the highlighted data element appears in the *Selected* list.

Deselecting Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Menu Instructions

Click ***Previous***. The Depending on your selection, either the *Portioning* screen appears or the *All/Portion* screen appears.

Click ***Next***. The *Table Options* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

5.8 Table Options

Table Options Screen

The next screen to appear is the *Table Options* screen. This screen allows you to enter the following information:

- Append to Field Name
- User Table Name
- User Table Description

Append to Field Name
The *Append to field names* fields is a required entry. This information will be appended to each data element in the table.

Enter User Table Name
The *User Table Name* field is a required entry, and it must be unique (i.e., if the table is private, you may not have another private table of that name, and if the table is public, there may not be another public table of that name owned by any user). It may contain any valid alphanumeric character (including space or underscore), and must be no longer than 20 characters in length. All *User Table Names* are defaulted to upper case.

Enter User Table Description
The *User Table Description* field (optional) allows you to further describe the characteristics of your table. There are no limitations on the character set or case that you use (no single or double quotes allowed), with a length of up to 200 characters. Your analysis description will automatically be displayed as a subheading on your output listing.

Make User Table Public
You may make your table public by checking *Make User Table Public.* When a table is public, all WASS+ users may view the table.

Menu Instructions

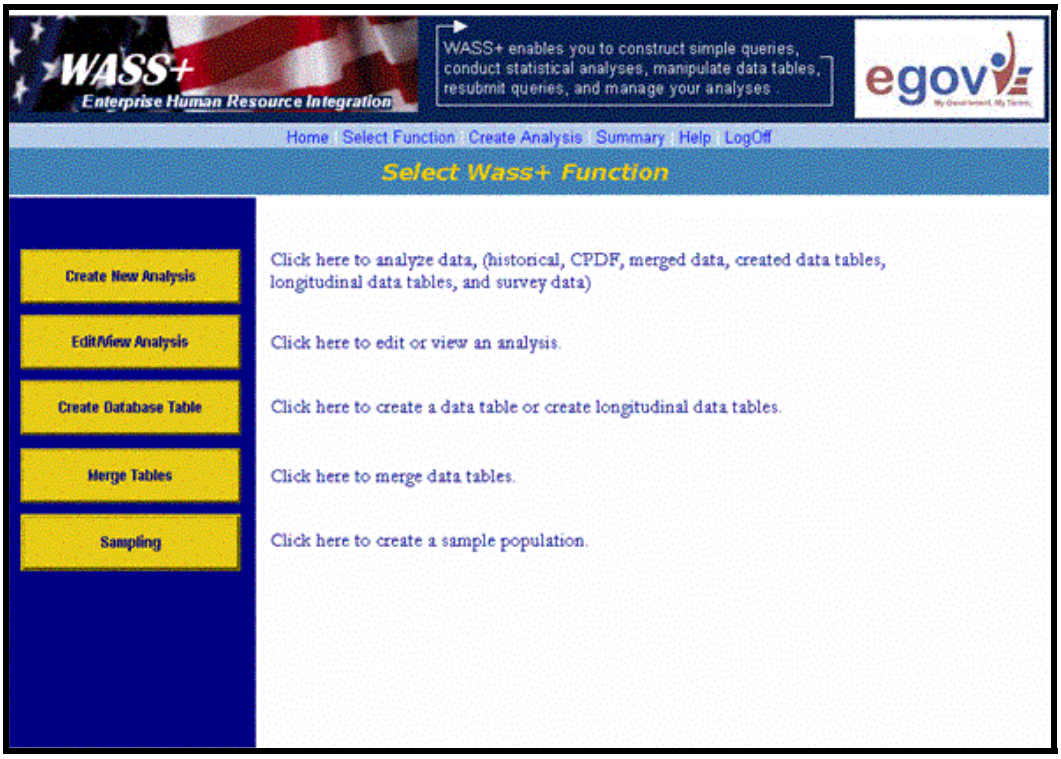
Click ***Previous***. The *Choose Data Elements* screen appears.

Click ***Create***. Results appear on the screen.

Click ***Help*** to access WASS+ online Help instructions.

SECTION 6.0 Merge Tables

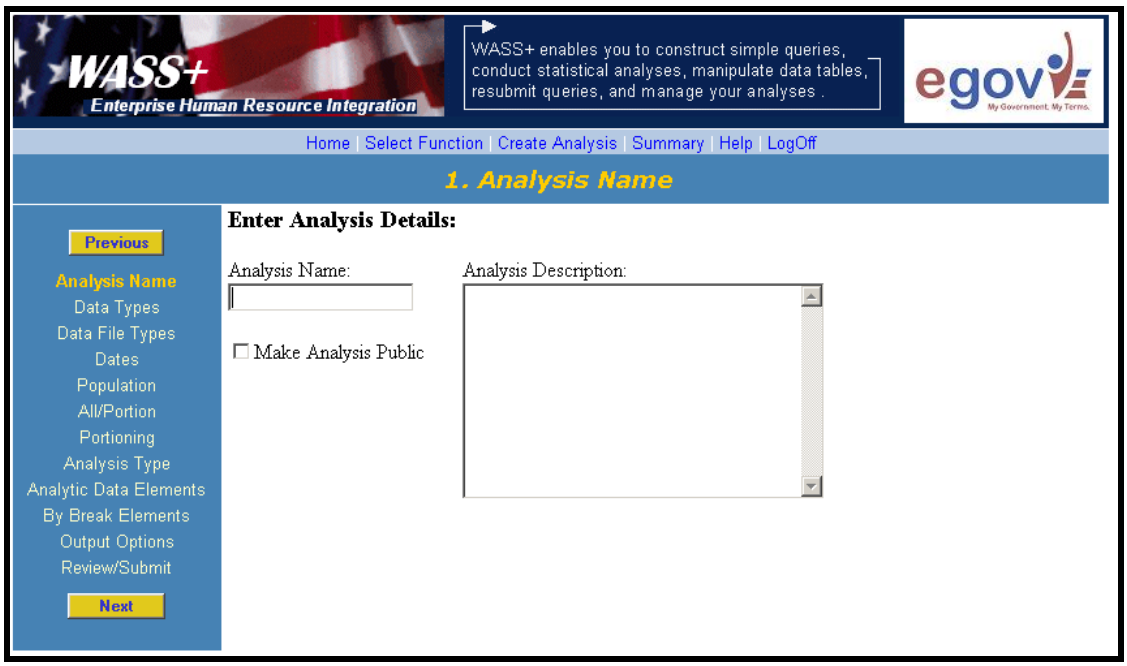
Select WASS+ Function Screen



Merge Tables allows you to combine data from different time periods so that they can add data elements to a population. You may also use this function to create new tables of data from a survey or another information source. This function will also allow you to create a longitudinal database for conducting longitudinal analyses by combining tables from different time periods in order to examine the activities or status of a given cohort over time. For example, you can examine a previous accession cohort (e.g., persons who entered the workforce prior to 1995) and analyze their current characteristics (e.g., their current Pay Grade distribution or number of promotions among the group since 1995).

6.1 Analysis Name

Analysis Name Screen



The first screen to appear is the *Analysis Name* screen. This screen enables you to enter the following information:

- Analysis Name (required)
- Analysis Description (optional)
- Make Analysis Public (optional)

Analysis Name

The *Analysis Name* field identifies the collection of user-defined SAS parameters and selections that define a particular analytic query. It is a required entry (i.e., in order to continue processing, you must define a analysis name), and it must be unique (i.e., if the table is private, you may not have another private table of that name, and if the table is public, there may not be another public table of that name). It may contain any valid alphanumeric character (plus a space or an underscore) and must be no longer than 30 characters in length. All analysis names are defaulted to upper case.

Analysis Description

The *Analysis Description* field is an optional entry that enables you to further describe the characteristics of your analysis. There are no limitations on the character set or case that you use (with the exception that you cannot use either a single or double quote), and the length can extend up to 132 characters.

Make Analysis Public

All analyses are automatically made "private" upon creation. This means that only you have the ability to view the analysis and analysis results. You may make your analysis public by clicking the *Make Analysis Public* checkbox. When an analysis has been made public, all WASS+ users have the capability to view the analysis and analysis results.

Menu Instructions

Click ***Previous.*** The *Select WASS+ Function* screen appears.

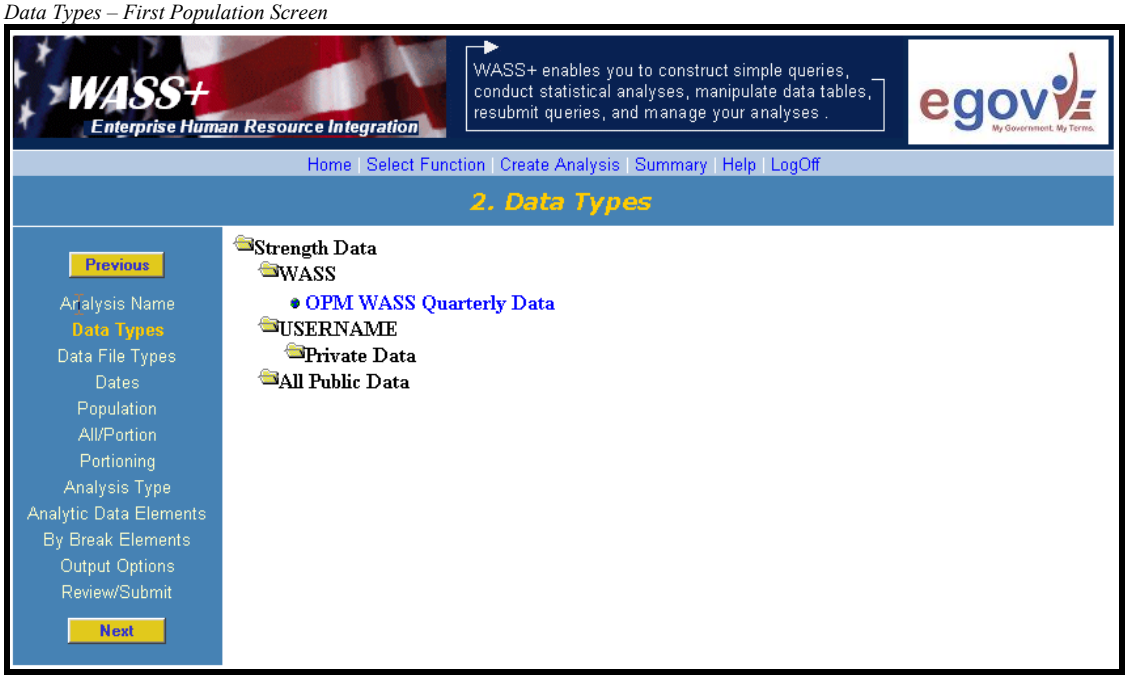
Click ***Next***. The *Data Types – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.2 Data Types

6.2.1 Data Types – First Population

Data Types – First Population Screen



The next screen to appear is the *Data Types – First Population* screen. The *Data Types* screen contains the types of data that are accessible through the system for your analysis. The following data types are available:

- **WASS** – The WASS folder contains *OPM WASS Quarterly Data*. The source of this data is CPDF data feeds from 1994 through the present day.
- **Private Folder --** The private folder may contain data if you have created tables.
- **All Public Data** – This folder contains data sources that you have made public, along with any data sources other users have made public.

(Note that the usage of the public data is defined by the agency. Business rules will establish who has the ability to make data types public.)

Menu Instructions

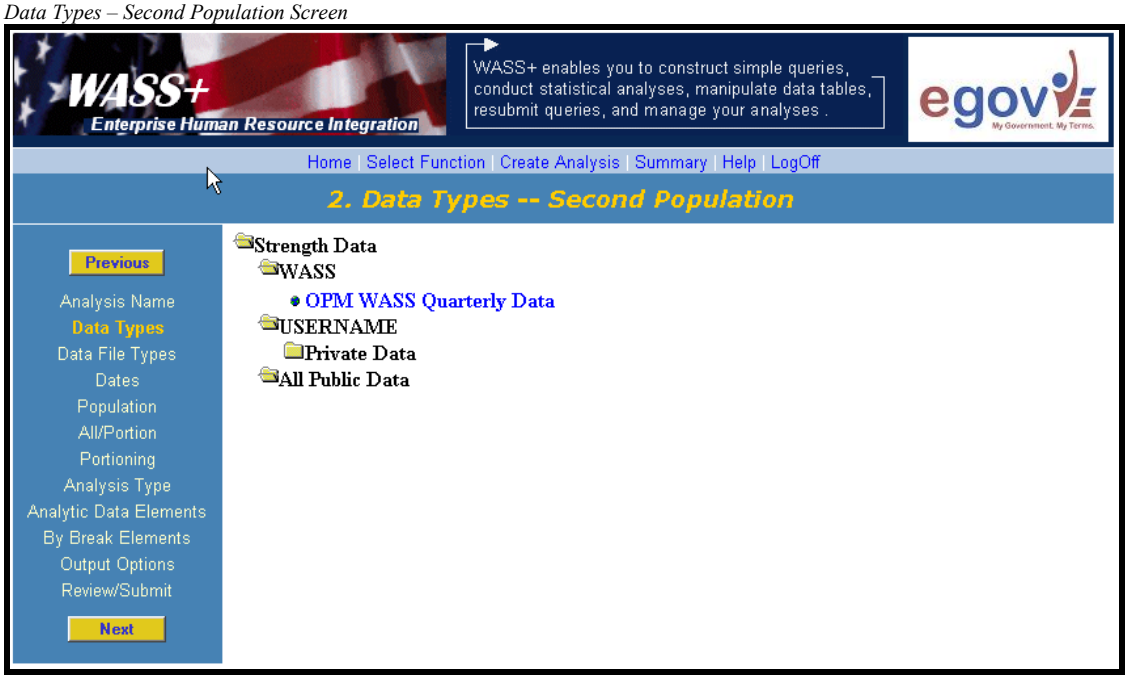
Click ***Previous.*** The *Analysis Name* screen appears.

Click ***Next***. The *Data Types – Second Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.2.2 Data Types – Second Population

Data Types – Second Population Screen



The next screen to appear is the *Data Types – Second Population* screen. The *Data Types* screen contains the types of data that are accessible through the system for your analysis. The following data types are available:

- **WASS** – The WASS folder contains *OPM WASS Quarterly Data*. The source of this data is CPDF data feeds from 1994 through the present day.
- **Private Folder** – The private folder may contain data if you have created tables.
- **All Public Data** – This folder contains data sources that you have made public, along with any data sources other users have made public.

(Note that the usage of the public data is defined by the agency. Business rules will establish who has the ability to make data types public.)

Menu Instructions

Click ***Previous.*** The *Data Types – First Population* screen appears.

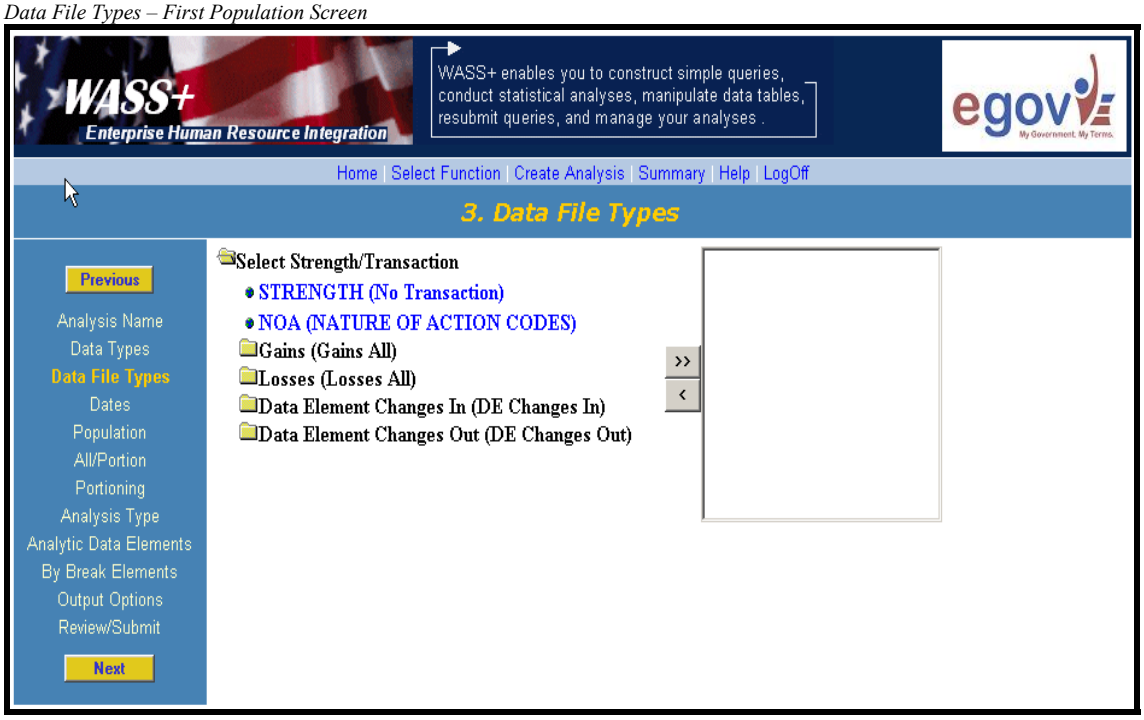
Click ***Next***. The *Data File Types – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.3 Data File Types

6.3.1 Data Types – First Population

Data File Types – First Population Screen



The next screen to appear is the *Data File Types* screen. This screen provides the folders for the available Data File Types:

- Strength
- NOA (Nature of Action Codes)
- Gains
- Losses
- Data Element Changes In/Out

6.3.1.1 Strength

Strength tables collectively contain historical quarter-end snapshots of the workforce. Not all data elements in the system may be available for the entire time horizon. For a complete list of the strength elements that are available in the system and the dates these elements are available, *see Appendix A: WASS+ Data Element Descriptions and Availability.*

As in almost all strength-based systems, data values that can be extracted from WASS+ strength tables represent workforce information "as of" a particular point in time (i.e., at the end of a given quarter). For example, Strength records that are tagged to quarterly 1998-09 data represent a snapshot of the state of the workforce "as of" the end of that quarter.

Since records are keyed by SSN and data points represent snapshots, all records for a particular point in time are unique (i.e., only one record for any given person exists on any given date).

Menu Instructions

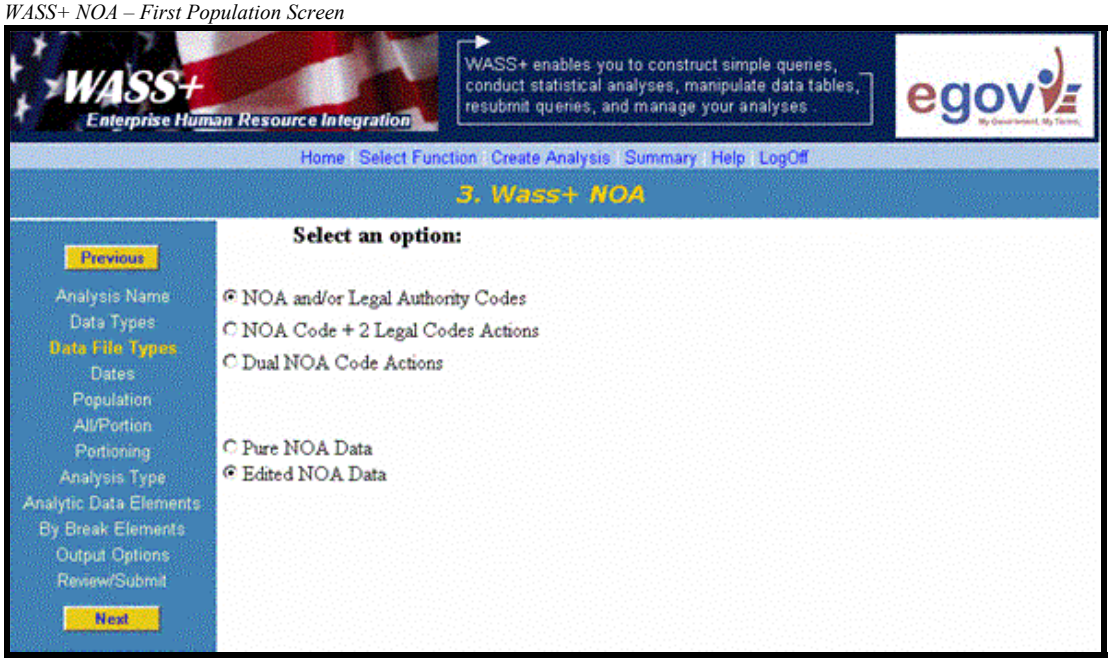
Click ***Previous.*** The *Data Types – Second Population* screen appears.

Click ***Next***. The *Data File Types – Second Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.3.1.2 NOA

WASS+ NOA – First Population Screen



If you selected *NOA (Nature of Action Codes)* from the *Data File Types – First Population* screen, the next screen to appear is *WASS+ NOA – First Population* screen.

The Nature of Action (NOA) table contains historical NOA transactions that have been submitted for individuals in the Federal Government Civilian workforce. This information is useful if you want to analyze data for a population group that has experienced a specific personnel action (e.g., Nature of Action Code 888, 'Denial of Within Grade Increase').

As in almost all transaction-based systems, data that can be extracted from the WASS+ NOA table represents events or actions that occurred over a given period of time (i.e., over a given quarter). For example, NOA transactions that are tagged to the quarterly 1998-09 data represent transactions that occurred *during* the quarter from July 1, 1998 through September 30, 1998.

Like Strength records, NOA transactions are keyed by SSN, but because multiple submissions of a given NOA can potentially occur *during* any given quarter, not all records are necessarily unique (i.e., more than one record for a given person can exist for a given date).

The *WASS+ NOA – First Population* screen allows you to further define your population group by NOA and Legal Authority Codes and how you want to view NOA data (using either the pure or edited form). You may choose to view all NOA records (with or without matching SSNs) in WASS+ Strength tables (pure), or you may choose to view NOA records that are ALSO found in WASS+ Strength tables (edited).

Use the *WASS+ NOA – First Population* screen to make two decisions:

1) Select one of the following three options by clicking the option button to the left of your selection.
   - NOA and/or Legal Authority Codes
   - NOA Code + 2 Legal Codes Actions
   - Dual NOA Code Actions

2) Select one of the two options by clicking the option button to the left of your selection.
   - Pure NOA Data --To view all NOA records (with or without matching SSNs in WASS+ Historical Strength tables), select *Pure NOA Data*. (When strength data elements - e.g., Agency Code, Occupational Series, etc. - are selected to be included in output records, those data elements where a match is found are populated; those data elements without a match are left blank.)
   - Edited NOA Data --To view only those NOA records that are ALSO found in WASS+ Strength tables, select *Edited NOA Data.* (All records not in WASS+ Historical Strength tables are dropped.)

Menu Instructions

Click ***Previous.*** The *Data Types – Second Population* screen appears.

Click ***Next***. Depending on your selection, the appropriate *NOA/Legal Code* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

6.3.1.2.1 NOA and/or Legal Authority Codes

WASS+ NOA/Legal – First Population Screen

If you selected the *NOA and/or Legal Authority Codes – First Population* option on the *WASS+ NOA – First Population* screen, and click ***Next***, the next screen to appear is the *WASS+ NOA/Legal – First Population* screen. Use the W*ASS+ NOA/Legal – First Population* screen to select NOA and Legal Codes that identify the records you want to analyze.

You have several options for selecting a NOA and Legal Authority Codes:

NOA Code without a Legal Authority Code
Selecting a particular NOA Code without selecting a Legal Authority Code will result in extracting ALL records from the database that contain the particular NOA Code, regardless of the Legal Authority Code value.

Selecting NOA Codes

1) Click a particular NOA Code to highlight it.
2) Click the ***right arrow*** to move the NOA Code to the *Selected Combinations* list.

Deselecting NOA Codes

1) Click the NOA Code in the *Selected Combinations* list.
2) Click ***'X'*** to deselect the NOA Code.
3) When deselected, the NOA Code no longer appears in the *Selected Combinations* list.

NOA Code/Legal Authority Code combination
Selecting a particular NOA Code while also selecting a Legal Authority Code will result in extracting *ONLY* those records from the database that contain *BOTH* the selected NOA code AND the selected Legal Authority Code.

Selecting NOA Codes and Legal Authority Codes

1) Click a particular NOA Code to highlight it.
2) Click the ***right arrow*** to move the NOA Code to the *Selected Combinations* list.
3) Click a particular Legal Authority Code to highlight it.
4) Click the ***left arrow*** to move the Legal Authority Code to the *Selected Combinations* list.

Deselecting NOA Codes

1) Click the NOA Code in the *Selected Combinations* list.
2) Click ***'X'*** to deselect the NOA Code.
3) When deselected, the NOA Code no longer appears in the *Selected Combinations* list.

Deselecting Legal Authority Codes

1) Click the Legal Authority Code in the *Selected Combinations* list.
2) When deselected, the Legal Authority Code no longer appears in the *Selected Combinations* list.

Legal Authority Code Only

Selecting a particular Legal Authority Code without selecting a NOA Code will result in extracting ALL records from the database that contain the particular Legal Authority Code, regardless of the NOA Code value.

Selecting Codes

1) Check the *Select Legal Authority Codes Only* checkbox.
2) Click the Legal Authority Code in the *Selected Combinations* list.
3) Click the ***left arrow*** to move the Legal Authority Code to the *Selected Combinations* list.

Deselecting Codes

1) Click the Legal Authority Code in the *Selected Combinations* list box.
2) When deselected, the Legal Authority Code no longer appears in the *Selected Combinations* list.

You may select an unlimited number of NOA Code, Legal Code, and NOA/Legal Code Combinations. Each selection adds records to the output data set (is treated as an "OR" condition). For example, suppose that NOA codes 130 and 132 have been selected and moved into the *Selected Combinations* list. The resulting output table would contain all NOA records containing either a NOA Code of 130 or a NOA Code of 132. If there were 20 records containing NOA Code 130 and 40 records containing NOA Code 132, the resulting output table would contain 60 records. These records could be analyzed either as a single group or as a separate group (by selecting NOA Code as an analytic or by break element).

Menu Instructions

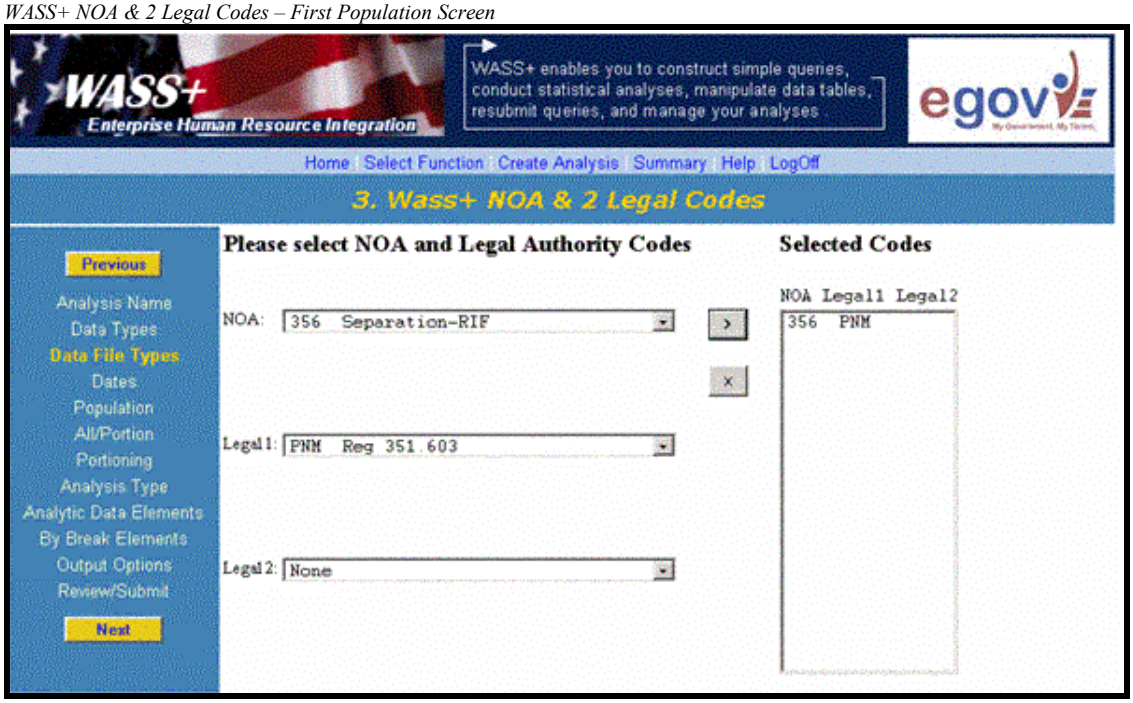
Click ***Previous***. The *WASS+ NOA - First Population* screen appears.

Click ***Next***. If NOA Codes were chosen on the *Data File Types – Second Population* screen, then the *WASS+ NOA – Second Population* screen appears. Otherwise, the *Dates – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.3.1.2.2 NOA Code & 2 Legal Codes

WASS+ NOA & 2 Legal Codes – First Population Screen



If you selected *NOA Code + 2 Legal Codes Actions* from the *WASS+ NOA – First Population* screen, the next screen to appear is the WASS+ *NOA & 2 Legal Codes – First Population* screen. Use the *WASS+ NOA & 2 Legal Codes – First Population* screen to enter your own list of NOA Codes, Legal Authority Codes or NOA/Legal Authority Code combinations.

Using the *WASS+ NOA & 2 Legal Codes* screen, you may:

- Select two Legal Authority Codes (i.e., Legal1 and Legal2) for a given NOA code.
- Select any combination of NOA, Legal1, and Legal2 codes (i.e., ALL codes are optional).

Selecting NOA Codes and/or Legal Authority Codes

1) Select the NOA Code and Legal Authority Code combinations by selecting the codes from the pull down menus.
2) Click on the ***right arrow*** to move the selected code combinations to the *Selected Codes* list box.

Deselecting Codes

1) Click the NOA Code / Legal Authority Code combination in the *Selected Codes* list box.
2) Click ***'X'*** to deselect the combination.
3) When deselected, the Combination no longer appears in the *Selected Codes* list box.

Any Combination of Codes can be a Selection.
Any combination of codes may be chosen as a selection. Each code acts as a constraint when records are extracted from the database. For example, if you choose a particular NOA code (e.g., 356), only records containing that NOA code will be extracted. If a Legal1 or a Legal2 code is not chosen, Legal codes will not act as constraints. Therefore, all records with a NOA code of 356 will be extracted, regardless of any Legal1 or Legal2 codes associated with the records. However, if you define a Legal1 code (e.g., PNM), only those records meeting BOTH conditions will be extracted (e.g., NOA code of 356 and Legal1 code of PNM).

An Unlimited Number of Selections.
An unlimited number of NOA Code, Legal Code, and/or NOA/Legal Code combinations can be selected. Each selection adds records to the output dataset (is treated as an "OR" condition). For example, suppose that NOA codes 130 and 132 have been selected and moved into the Selected Codes box. The resulting output table would contain all NOA records that included either a NOA Code of 130 or a NOA Code of 132. If there were 20 records containing Code 130 and 40 records containing code 132, the resulting output table would contain 60 records. These records could then be analyzed as either a single group or as a separate group (by selecting the NOA Code as an analytic or by break element).

Menu Instructions

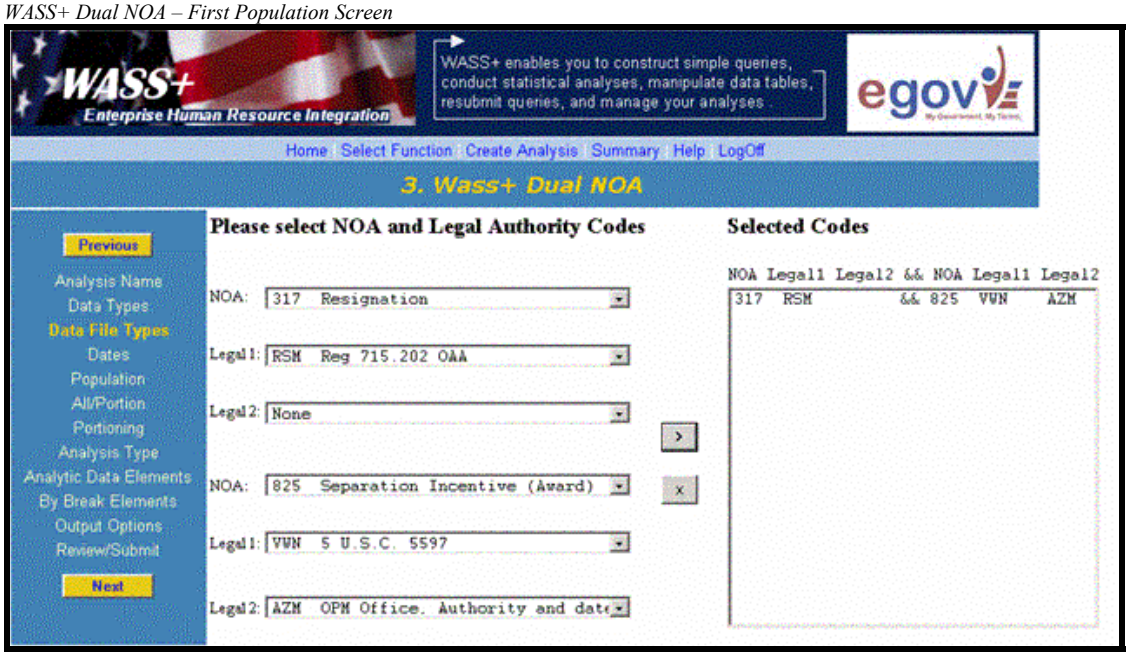
Click ***Previous***. The *WASS+ NOA - First Population* screen appears.

Click ***Next***. If NOA Codes were chosen on the *Data File Types – Second Population* screen, then the *WASS+ NOA – Second Population* screen appears. Otherwise, the *Dates – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.3.1.2.3 Dual NOA Code Actions

WASS+ Dual NOA – First Population Screen



If you selected the *Dual NOA Code Actions* option on the *WASS+ NOA – First Population* screen, the next screen to appear is the *WASS+ Dual NOA – First Population* screen. Use the *WASS+ Dual NOA – First Population* screen to select your own combinations of NOA Codes or NOA/Legal Code combinations.

The *WASS+ Dual NOA – First Population* screen is similar to the *WASS+ NOA/Legal – First Population* screen - except that you can (and must) enter two NOA codes. Use this screen when you want to extract records that represent dual NOA actions. The Legal1 and Legal2 codes for each NOA code are optional, and they act as additional constraints—just as is true for the *WASS+ NOA/Legal – First Population* screen.

Selecting NOA Codes and/or Legal Authority Codes

1) Select two NOA Codes by selecting the codes from the pull down menus.
2) If desired, select Legal Authority Codes by selecting the codes from the pull down menus.
3) Click on the ***right arrow*** to move the selected code combinations to the *Selected Codes* list.

Deselecting Codes

1) Click the NOA Code / Legal Authority Code combinations in the *Selected Codes* list.
2) Click ***'X'*** to deselect the combination.
3) When deselected, the Combination no longer appears in the *Selected Codes* list.

An unlimited number of dual NOA code and/or dual NOA/Legal combinations can be selected. Each selection adds records to the output dataset (is treated as an "OR" condition).

Menu Instructions

Click ***Previous***. The *WASS+ NOA – First Population* screen appears.

Click ***Next***. If NOA Codes were chosen on the *Data File Types – Second Population* screen, then the *WASS+ NOA – Second Population* screen appears. Otherwise, the *Dates – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.3.1.3 Gains, Losses, Data Element Changes

Transaction tables contain summary records of historical personnel actions or data elements changes that have occurred for each employee. Making quarter-to-quarter comparisons of each employee's personnel record identifies these "transactions". Results from these comparisons can be classified into three major subgroups:

- **Gain Transactions –** Occur when an individual was not in the previous quarter's strength file but is in the current quarter's strength file.
- **Loss Transactions –** Occur when an individual was in the previous quarter's strength file but not in the current quarter's strength file.
- **Data Element Changes –** Occur when an individual is in both quarter's strength files, but certain key data elements (e.g., Pay Grade, Agency, etc.) have changed.

These three categories of transaction data are further explained in **Section 3.3.3**.

Menu Instructions

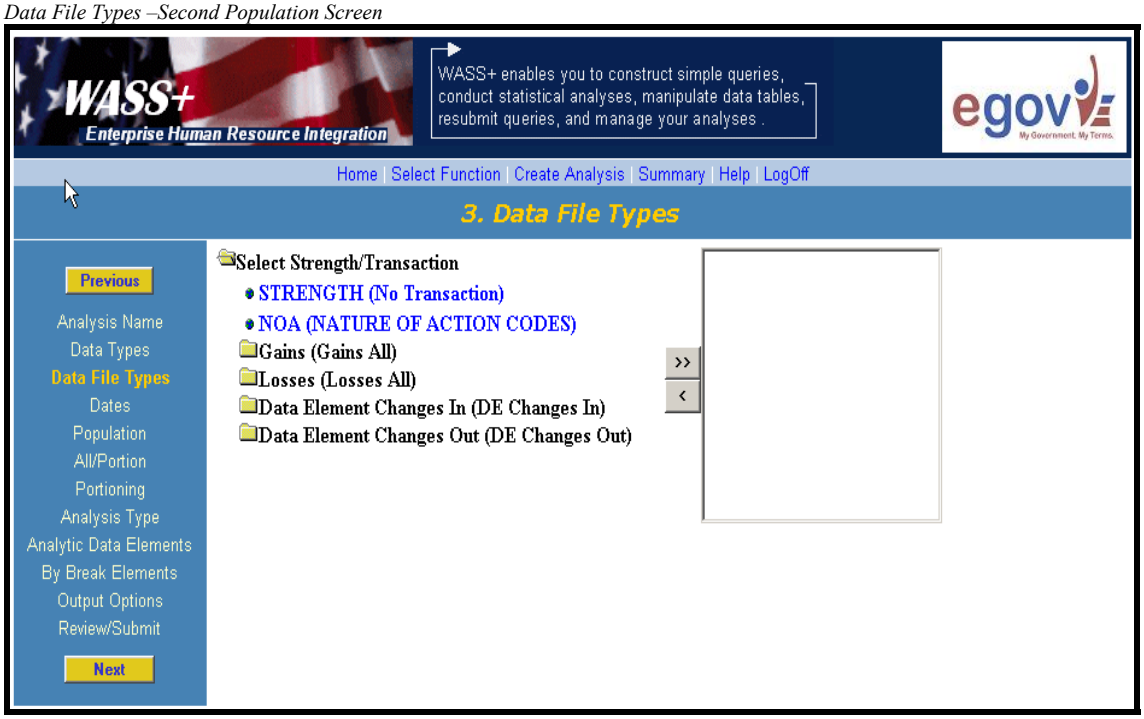
Click ***Previous***. The *Data Types – Second Population* screen appears.

Click ***Next***. The *Dates – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.3.2 Data Types – Second Population

Data File Types –Second Population Screen



The next screen to appear is the *Data File Types – Second Population* screen. This screen provides the folders for the available Data File Types:

- Strength
- NOA (Nature of Action Codes)
- Gains
- Losses
- Data Element Changes In/Out

6.3.2.1 Strength

Strength tables collectively contain historical quarter-end snapshots of the workforce. Not all data elements in the system may be available for the entire time horizon. For a complete list of the strength elements that are available in the system and the dates these elements are available, *see Appendix A: WASS+ Data Element Descriptions and Availability.*

As in almost all strength-based systems, data values that can be extracted from WASS+ strength tables represent workforce information "as of" a particular point in time (i.e., at the end of a given quarter). For example, Strength records that are tagged to quarterly 1998-09 data represent a snapshot of the state of the workforce "as of" the end of that quarter.

Since records are keyed by SSN and data points represent snapshots, all records for a particular point in time are unique (i.e., only one record for any given person exists on any given date).

Menu Instructions

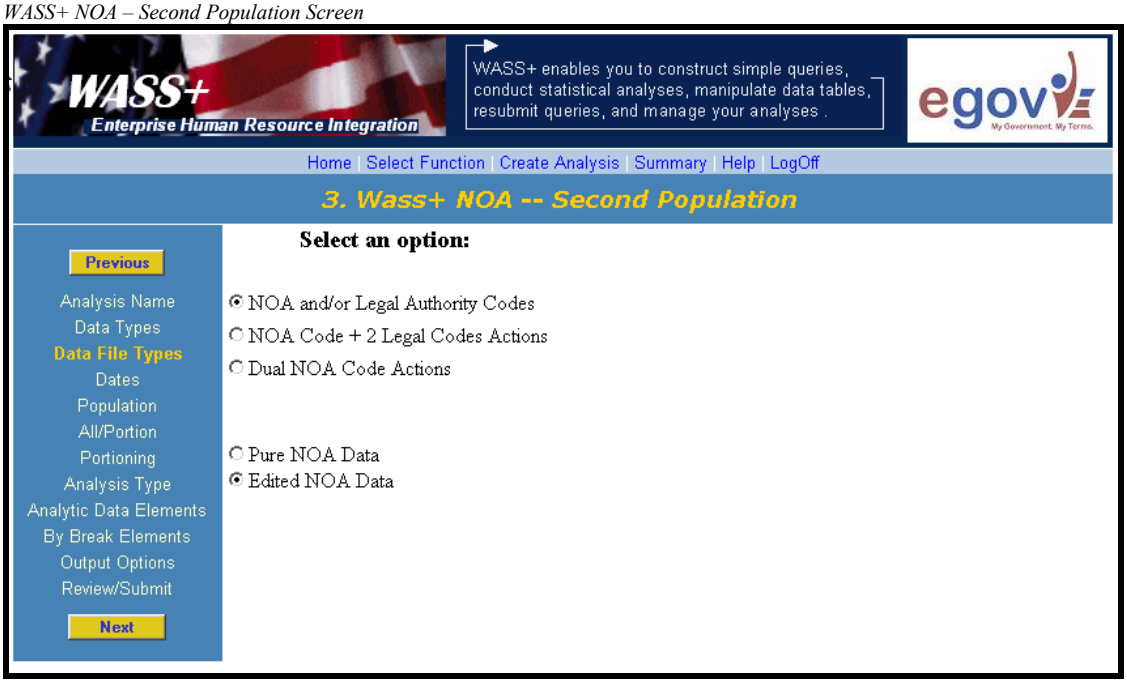
Click ***Previous.*** If NOA Codes were chosen on the *Data File Types – First Population* screen, then the *WASS+ NOA – First Population* screen appears. Otherwise, the *Data File Types– First Population* screen appears.

Click ***Next***. The *Dates - First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.3.2.2 NOA

WASS+ NOA – Second Population Screen



If you selected *NOA (Nature of Action Codes)* from the *Data File Types – Second Population* screen, the next screen to appear is *WASS+ NOA – Second Population* screen.

The Nature of Action (NOA) table contains historical NOA transactions that have been submitted for individuals in the Federal Government Civilian workforce. This information is useful if you want to analyze data for a population group that has experienced a specific personnel action (e.g., Nature of Action Code 888, 'Denial of Within Grade Increase').

As in almost all transaction-based systems, data that can be extracted from the WASS+ NOA table represents events or actions that occurred over a given period of time (i.e., over a given quarter). For example, NOA transactions that are tagged to the quarterly 1998-09 data represent transactions that occurred *during* the quarter from July 1, 1998 through September 30, 1998.

Like Strength records, NOA transactions are keyed by SSN, but because multiple submissions of a given NOA can potentially occur *during* any given quarter, not all records are necessarily unique (i.e., more than one record for a given person can exist for a given date).

The *WASS+ NOA – Second Population* screen allows you to further define your population group by NOA and Legal Authority Codes and how you want to view NOA data (using either the pure or edited form). You may choose to view all NOA records (with or without matching SSNs) in WASS+ Strength tables (pure), or you may choose to view NOA records that are ALSO found in WASS+ Strength tables (edited).

Use the *WASS+ NOA – Second Population* screen to make two decisions:

1) Select one of the following three options by clicking the option button to the left of your selection.
   - NOA and/or Legal Authority Codes
   - NOA Code + 2 Legal Codes Actions
   - Dual NOA Code Actions

2) Select one of the two options by clicking the option button to the left of your selection.
   - Pure NOA Data --To view all NOA records (with or without matching SSNs in WASS+ Historical Strength tables), select *Pure NOA Data*. (When strength data elements - e.g., Agency Code, Occupational Series, etc. - are selected to be included in output records, those data elements where a match is found are populated; those data elements without a match are left blank.)
   - Edited NOA Data --To view only those NOA records that are ALSO found in WASS+ Strength tables, select *Edited NOA Data.* (All records not in WASS+ Historical Strength tables are dropped.)

Menu Instructions

Click ***Previous.*** If NOA Codes were chosen on the *Data File Types – First Population* screen, then the *WASS+ NOA – First Population* screen appears. Otherwise, the *Data File Types– Second Population* screen appears.

Click ***Next***. Depending on your selection, the appropriate *NOA/Legal Code* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

6.3.2.2.1 NOA and/or Legal Authority Codes

WASS+ NOA/Legal – Second Population Screen

If you selected the *NOA and/or Legal Authority Codes* option on the *WASS+ NOA – Second Population* screen, and click ***Next***, the next screen to appear is the *WASS+ NOA/Legal – Second Population* screen. Use the W*ASS+ NOA/Legal – Second Population* screen to select NOA and Legal Codes that identify the records you want to analyze.

You have several options for selecting a NOA and Legal Authority Codes:

NOA Code without a Legal Authority Code
Selecting a particular NOA Code without selecting a Legal Authority Code will result in extracting ALL records from the database that contain the particular NOA Code, regardless of the Legal Authority Code value.

Selecting NOA Codes

1) Click a particular NOA Code to highlight it.
2) Click the ***right arrow*** to move the NOA Code to the *Selected Combinations* list.

Deselecting NOA Codes

1) Click the NOA Code in the *Selected Combinations* list.
2) Click ***'X'*** to deselect the NOA Code.
3) When deselected, the NOA Code no longer appears in the *Selected Combinations* list.

NOA Code/Legal Authority Code combination
Selecting a particular NOA Code while also selecting a Legal Authority Code will result in extracting *ONLY* those records from the database that contain *BOTH* the selected NOA code AND the selected Legal Authority Code.

Selecting NOA Codes and Legal Authority Codes

1) Click a particular NOA Code to highlight it.
2) Click the ***right arrow*** to move the NOA Code to the *Selected Combinations* list.
3) Click a particular Legal Authority Code to highlight it.
4) Click the ***left arrow*** to move the Legal Authority Code to the *Selected Combinations* list.

Deselecting NOA Codes

1) Click the NOA Code in the *Selected Combinations* list.
2) Click ***'X'*** to deselect the NOA Code.
3) When deselected, the NOA Code no longer appears in the *Selected Combinations* list.

Deselecting Legal Authority Codes

1) Click the Legal Authority Code in the *Selected Combinations* list.
2) When deselected, the Legal Authority Code no longer appears in the *Selected Combinations* list.

Legal Authority Code Only

Selecting a particular Legal Authority Code without selecting a NOA Code will result in extracting ALL records from the database that contain the particular Legal Authority Code, regardless of the NOA Code value.

Selecting Codes

1) Check the *Select Legal Authority Codes Only* checkbox.
2) Click the Legal Authority Code in the *Selected Combinations* list.
3) Click the ***left arrow*** to move the Legal Authority Code to the *Selected Combinations* list.

Deselecting Codes

1) Click the Legal Authority Code in the *Selected Combinations* list box.
2) When deselected, the Legal Authority Code no longer appears in the *Selected Combinations* list.

You may select an unlimited number of NOA Code, Legal Code, and NOA/Legal Code Combinations. Each selection adds records to the output data set (is treated as an "OR" condition). For example, suppose that NOA codes 130 and 132 have been selected and moved into the *Selected Combinations* list box. The resulting output table would contain all NOA records containing either a NOA Code of 130 or a NOA Code of 132. If there were 20 records containing NOA Code 130 and 40 records containing NOA Code 132, the resulting output table would contain 60 records. These records could be analyzed either as a single group or as a separate group (by selecting NOA Code as an analytic or by break element).

Menu Instructions

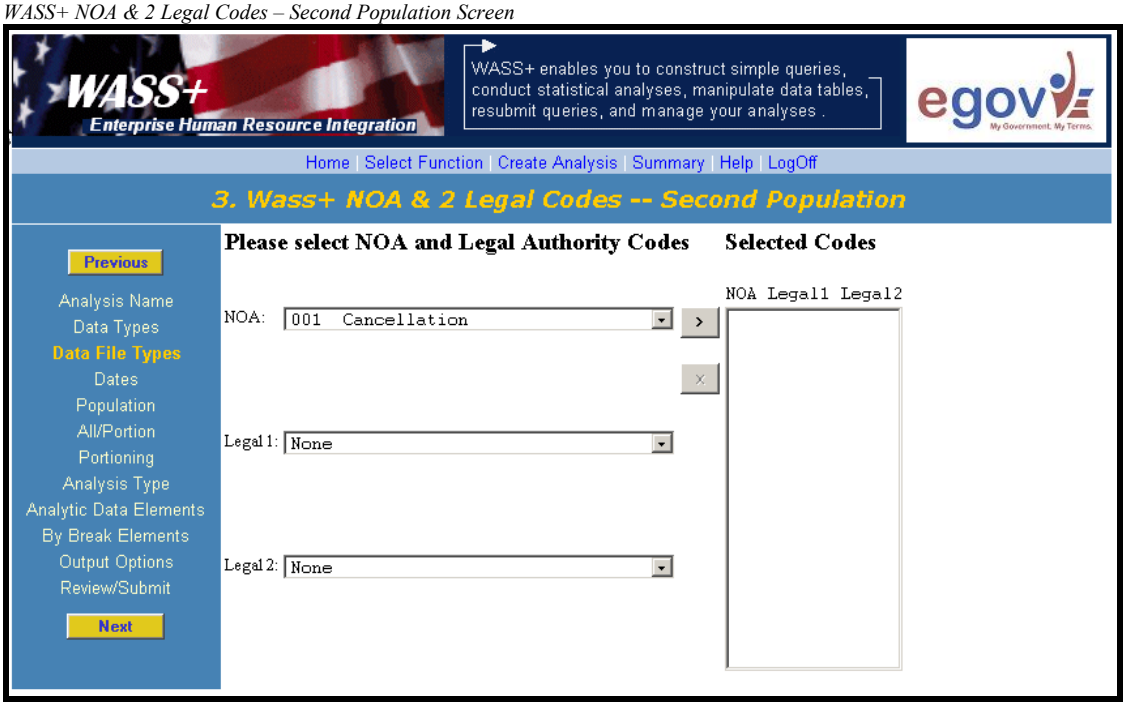
Click ***Previous***. The *WASS+ NOA – Second Population* screen appears.

Click ***Next***. The *Dates – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.3.2.2.2 NOA Code & 2 Legal Codes

WASS+ NOA & 2 Legal Codes – Second Population Screen



If you selected *NOA Code + 2 Legal Codes Actions* from the *WASS+ NOA – Second Population* screen, the next screen to appear is the WASS+ *NOA & 2 Legal Codes – Second Population* screen. Use the *WASS+ NOA & 2 Legal Codes – Second Population* screen to enter your own list of NOA Codes, Legal Authority Codes or NOA/Legal Authority Code combinations.

Using the *WASS+ NOA & 2 Legal Codes – Second Population* screen, you may:

- Select two Legal Authority Codes (i.e., Legal1 and Legal2) for a given NOA code.
- Select any combination of NOA, Legal1, and Legal2 codes (i.e., ALL codes are optional).

Selecting NOA Codes and/or Legal Authority Codes

1) Select the NOA Code and Legal Authority Code combinations by selecting the codes from the pull down menus.
2) Click on the ***right arrow*** to move the selected code combinations to the *Selected Codes* list box.

Deselecting Codes

1) Click the NOA Code / Legal Authority Code combination in the *Selected Codes* list.
2) Click ***'X'*** to deselect the combination.
3) When deselected, the Combination no longer appears in the *Selected Codes* list.

Any Combination of Codes can be a Selection.
Any combination of codes may be chosen as a selection. Each code acts as a constraint when records are extracted from the database. For example, if you choose a particular NOA code (e.g., 356), only records containing that NOA code will be extracted. If a Legal1 or a Legal2 code is not chosen, Legal codes will not act as constraints. Therefore, all records with a NOA code of 356 will be extracted, regardless of any Legal1 or Legal2 codes associated with the records. However, if you define a Legal1 code (e.g., PNM), only those records meeting BOTH conditions will be extracted (e.g., NOA code of 356 and Legal1 code of PNM).

An Unlimited Number of Selections.
An unlimited number of NOA Code, Legal Code, and/or NOA/Legal Code combinations can be selected. Each selection adds records to the output dataset (is treated as an "OR" condition). For example, suppose that NOA codes 130 and 132 have been selected and moved into the Selected Codes box. The resulting output table would contain all NOA records that included either a NOA Code of 130 or a NOA Code of 132. If there were 20 records containing Code 130 and 40 records containing code 132, the resulting output table would contain 60 records. These records could then be analyzed as either a single group or as a separate group (by selecting the NOA Code as an analytic or by break element).

Menu Instructions

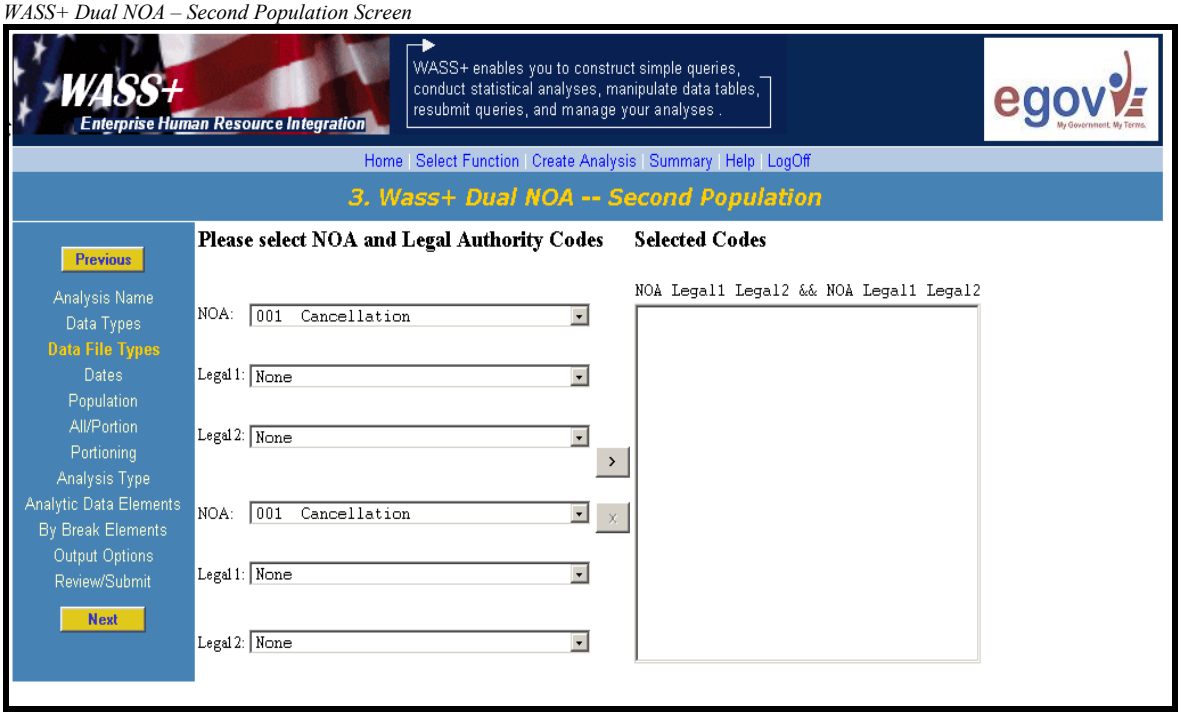
Click ***Previous***. The *WASS+ NOA – Second Population* screen appears.

Click ***Next***. The *Dates – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.3.2.2.3 Dual NOA Code Actions

WASS+ Dual NOA – Second Population Screen



If you selected the *Dual NOA Code Actions – Second Population* option on the *WASS+ NOA – Second Population* screen, the next screen to appear is the *WASS+ Dual NOA – Second Population* screen. Use the *WASS+ Dual NOA – Second Population* screen to select your own combinations of NOA Codes or NOA/Legal Code combinations.

The *WASS+ Dual NOA – Second Population* screen is similar to the *WASS+ NOA/Legal – Second Population* screen - except that you can (and must) enter two NOA codes. Use this screen when you want to extract records that represent dual NOA actions. The Legal1 and Legal2 codes for each NOA code are optional, and they act as additional constraints—just as is true for the *WASS+ NOA/Legal – Second Population* screen.

Selecting NOA Codes and/or Legal Authority Codes

1) Select two NOA Codes by selecting the codes from the pull down menus.
2) If desired, select Legal Authority Codes by selecting the codes from the pull down menus.
3) Click on the ***right arrow*** to move the selected code combinations to the *Selected Codes* list box.

Deselecting Codes

1) Click the NOA Code / Legal Authority Code combinations in the *Selected Codes* list.
2) Click ***'X'*** to deselect the combination.
3) When deselected, the Combination no longer appears in the *Selected Codes* list.

An unlimited number of dual NOA code and/or dual NOA/Legal combinations can be selected. Each selection adds records to the output dataset (is treated as an "OR" condition).

Menu Instructions

Click ***Previous***. The *WASS+ NOA – Second Population* screen appears.

Click ***Next***. The *Dates – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.3.2.3 Gains, Losses, Data Element Changes

Transaction tables contain summary records of historical personnel actions or data elements changes that have occurred for each employee. Making quarter-to-quarter comparisons of each employee's personnel record identifies these "transactions". Results from these comparisons can be classified into three major subgroups:

- **Gain Transactions –** Occur when an individual was not in the previous quarter's strength file but is in the current quarter's strength file.
- **Loss Transactions –** Occur when an individual was in the previous quarter's strength file but not in the current quarter's strength file.
- **Data Element Changes –** Occur when an individual is in both quarter's strength files, but certain key data elements (e.g., Pay Grade, Agency, etc.) have changed.

These three categories of transaction data are further explained in **Section 3.3.3**.

Menu Instructions

Click ***Previous***. The *Data File Types – First Population* screen appears.

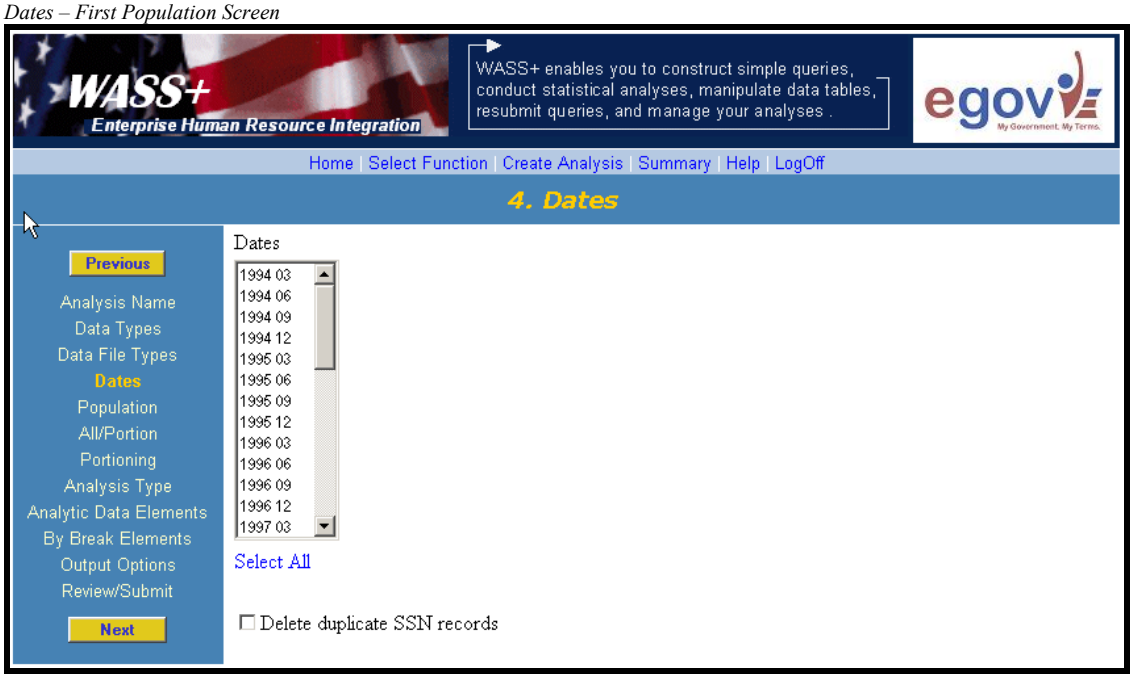
Click ***Next***. The *Dates – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.4 Dates

6.4.1 Dates - First Population

Dates – First Population Screen



The next screen to appear is the *Dates – First Population* screen. The values displayed in the *Dates* list are those date groups available in the selected table. For quarterly tables, the date range spans from 1994-03 to the present date. When processing WASS+ historical tables, one or more date selections must be made to continue processing.

Selecting Dates

- To select dates for analysis, click on the appropriate "YYYY MM" values in the *Dates* list to highlight dates.
- To select all dates, click *Select All* at the bottom of the *Dates* list.

Deselecting Dates

- To deselect dates, click again on the highlighted dates in the *Dates* list to remove the highlight.

Selecting Date Groups

The number of date groups you select depends on the analysis you wish to perform. For example, if you want to analyze the difference between the average performance appraisal ratings for the quarter ending December 1995 and December 2000, select only those two dates. If you want to analyze data elements over a ***continuous period*** of time (e.g., the difference in salaries between males and females from 1994 to the present) to evaluate trends, click *Select All*.

Processing time is highly dependent on the number of dates selected. Additional date groups require additional processing time for the system to produce analysis results.

Delete Duplicate SSN Records

Placing a checkmark in the *Delete Duplicate SSN Records* checkbox enables you to avoid multiple occurrences of SSN records in a given output table. Multiple occurrences can occur when all records for a

given time period are not necessarily unique (as is the case with NOA tables), or when multiple time periods have been selected.

The usefulness of this feature depends on the types of questions being asked. For example, the total *number of promotions* occurring in an organization over a time period (e.g., FY1995-FY1998) could be different from the total *number of "people"* who were promoted in that organization over the same time period. (Some people could have been promoted more than once.) Therefore, *Delete Duplicate SSN Records* allows you to exclude multiple SSN records from your output table, limiting your query results to unique individuals. When this feature is activated, the system keeps the first record encountered for the SSN and discards all duplicates.

Menu Instructions

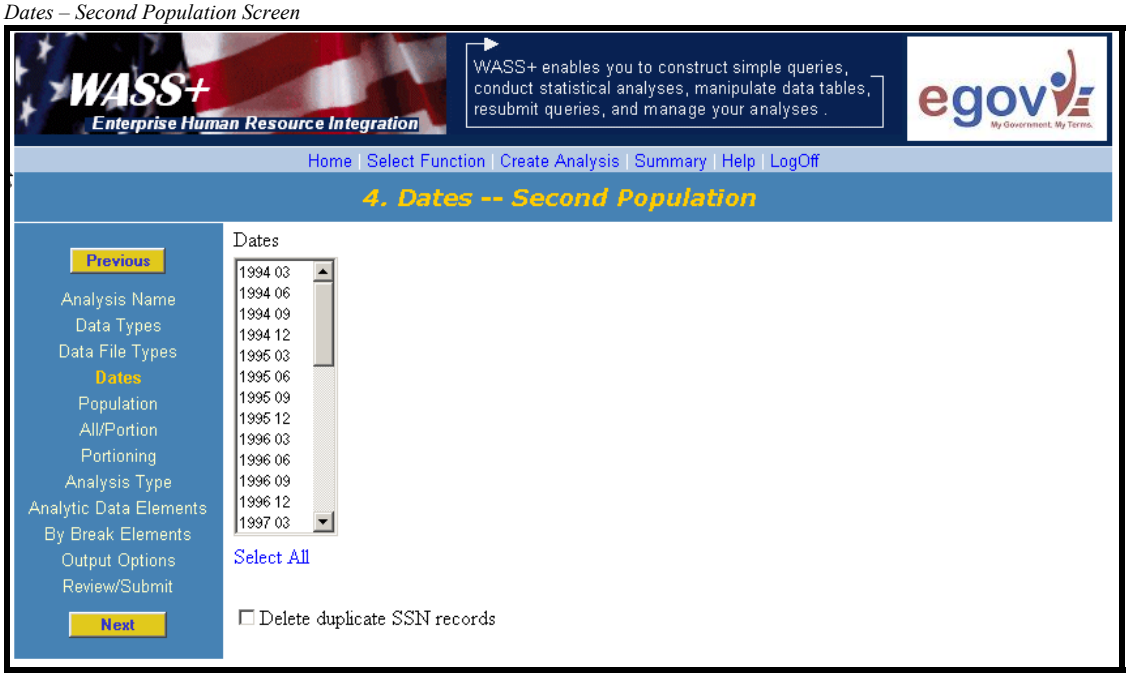
Click ***Previous***. If you selected *NOA* from the *Data File Types – Second Population* screen, the appropriate NOA screen will appear. Otherwise, the *Data File Types – Second Population* screen appears.

Click ***Next***. The *Dates – Second Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.4.2 Dates – Second Population

Dates – Second Population Screen



The next screen to appear is the *Dates – Second Population* screen. The values displayed in the *Dates* list are those date groups available in the selected table. For quarterly tables, the date range spans from 1994-03 to the present date. When processing WASS+ historical tables, one or more date selections must be made to continue processing.

Selecting Dates

- To select dates for analysis, click on the appropriate "YYYY MM" values in the *Dates* list to highlight dates.
- To select all dates, click *Select All* at the bottom of the *Dates* list.

Deselecting Dates

- To deselect dates, click again on the highlighted dates in the Dates list to remove the highlight.

Selecting Date Groups

The number of date groups you select depends on the analysis you wish to perform. For example, if you want to analyze the difference between the average performance appraisal ratings for the quarter ending December 1995 and December 2000, select only those two dates. If you want to analyze data elements over a continuous period of time (e.g., the difference in salaries between males and females from 1994 to the present) to evaluate trends, click *Select All*.

Processing time is highly dependent on the number of dates selected. Additional date groups require additional processing time for the system to produce analysis results.

Delete Duplicate SSN Records

Placing a checkmark in the *Delete Duplicate SSN Records* checkbox enables you to avoid multiple occurrences of SSN records in a given output table. Multiple occurrences can occur when all records for a given time period are not necessarily unique (as is the case with NOA tables), or when multiple time periods have been selected.

The usefulness of this feature depends on the types of questions being asked. For example, the total *number of promotions* occurring in an organization over a time period (e.g., FY1995-FY1998) could be different from the total *number of "people*" who were promoted in that organization over the same time period. (Some people could have been promoted more than once.) Therefore, *Delete Duplicate SSN Records* allows you to exclude multiple SSN records from your output table, limiting your query results to unique individuals. When this feature is activated, the system keeps the first record encountered for the SSN and discards all duplicates.

Menu Instructions

Click ***Previous***. The *Dates – First Population* screen appears.

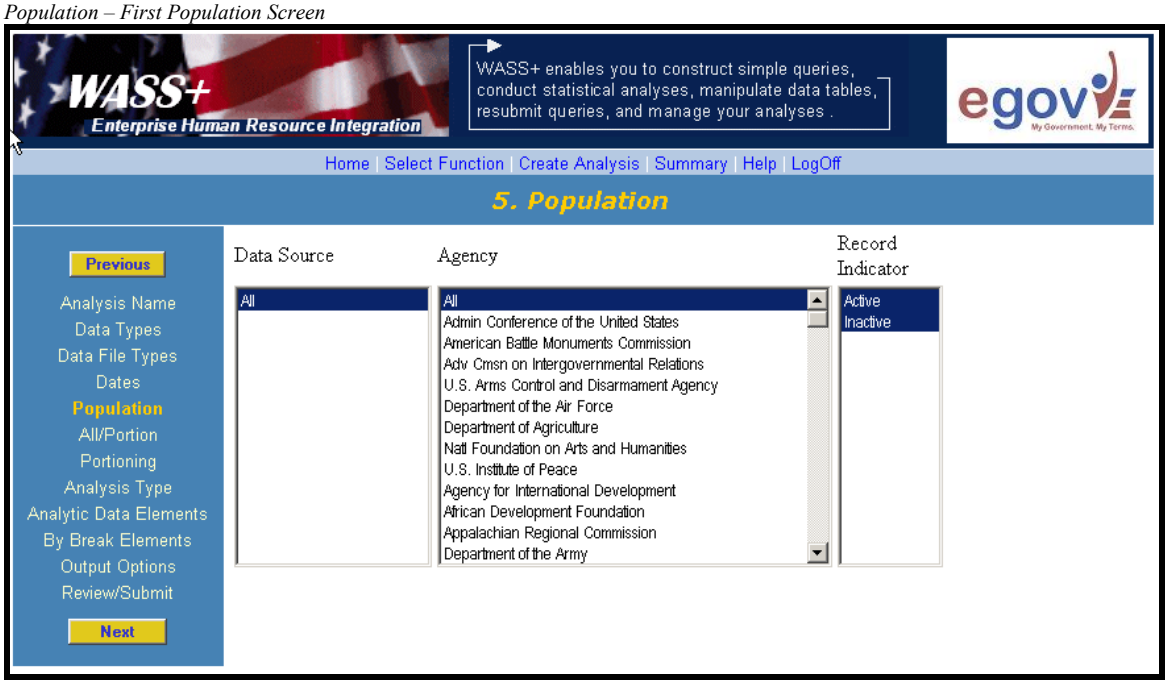
Click ***Next***. The *Population – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.5 Population

6.5.1 Population – First Population

Population – First Population Screen



The next screen to appear is the *Population – First Population* screen.

Agency
Choose the agency or agencies to include in the population. If all agencies are to be analyzed, select 'All'.

Work Schedule
The Work Schedule values are 'Full-Time', 'Full-Time Seasonal', 'Intermittent', 'Intermittent Seasonal', 'Part-Time', Part-Time Seasonal', 'Part-Time Job Sharer', and 'Part-Time Seasonal Job Sharer'. To portion on Work Schedule choose the desired values from the list. If all Work Schedules are to be analyzed, select 'All'.

Record Indicator
The Record Indicator values are 'ACTIVE' and 'INACTIVE'. The 'ACTIVE' flag identifies all records with an Active/Inactive Strength Indicator code of '1' (Active-Regular Employment) or '2' (Active-Special Employment). The 'INACTIVE' flag identifies all records with an Active/Inactive Strength Indicator code of '4' (Inactive-Non-Strength Accountable).

At least one value of record indicator must be selected. Both values can be selected if you desire to simultaneously analyze both population groups. In the latter case, the 'Record Indicator' can be selected later as an analytic or by break element to identify these records distinctly in the resulting analysis.

Menu Instructions

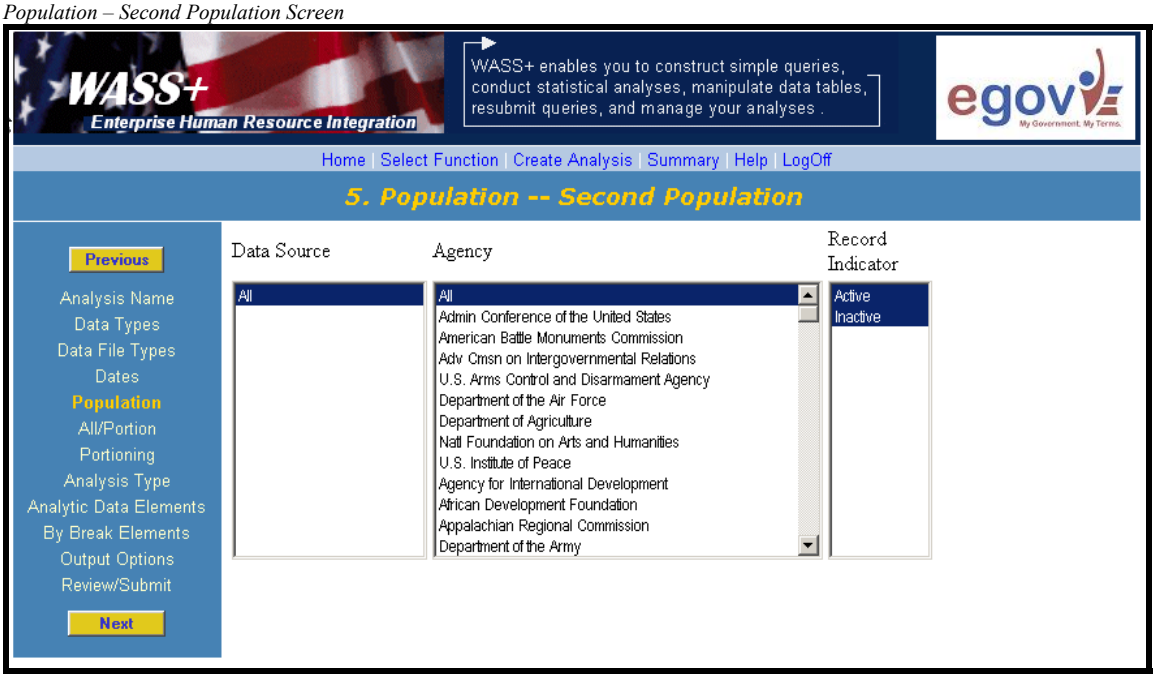
Click ***Previous***. The *Dates – Second Population* screen appears.

Click ***Next***. The *Population – Second Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.5.2 Population – Second Population

Population – Second Population Screen



The next screen to appear is the *Population – Second Population* screen.

Agency
Choose the agency or agencies to include in the population. If all agencies are to be analyzed, select 'All'.

Work Schedule
The Work Schedule values are 'Full-Time', 'Full-Time Seasonal', 'Intermittent', 'Intermittent Seasonal', 'Part-Time', Part-Time Seasonal', 'Part-Time Job Sharer', and 'Part-Time Seasonal Job Sharer'. To portion on Work Schedule choose the desired values from the list. If all Work Schedules are to be analyzed, select 'All'.

Record Indicator
The Record Indicator values are 'ACTIVE' and 'INACTIVE'. The 'ACTIVE' flag identifies all records with an Active/Inactive Strength Indicator code of '1' (Active-Regular Employment) or '2' (Active-Special Employment). The 'INACTIVE' flag identifies all records with an Active/Inactive Strength Indicator code of '4' (Inactive-Non-Strength Accountable).

At least one value of record indicator must be selected. Both values can be selected if you desire to simultaneously analyze both population groups. In the latter case, the 'Record Indicator' can be selected later as an analytic or by break element to identify these records distinctly in the resulting analysis.

Menu Instructions

Click ***Previous***. The *Population – First Population* screen appears.

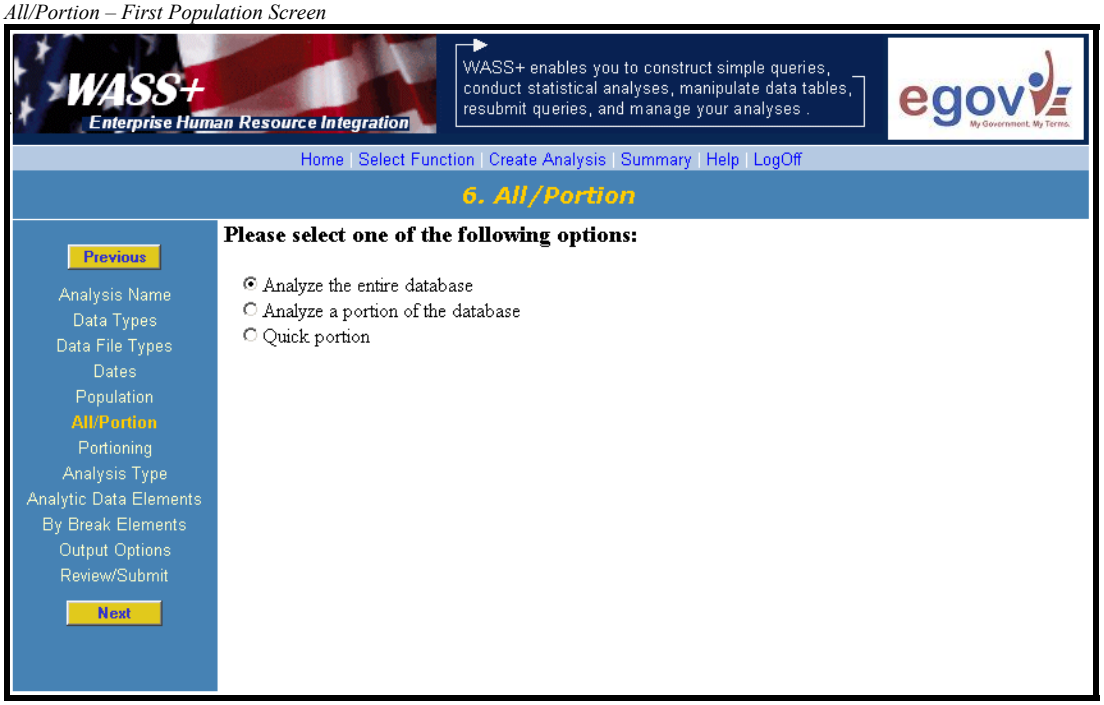
Click ***Next***. The *All/Portion – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.6 All/Portion

6.6.1 All/Portion – First Population

All/Portion – First Population Screen



The next screen to appear is the *All/Portion – First Population* screen. Use the *All/Portion – First Population* screen to make decisions regarding the type and size of population group for an analysis. Select one of the following three options by clicking the option button to the left of your selection:

- Analyze the entire database
- Analyze a portion of the database
- Quick portion

Historical Database Population Groups

- Use the ***entire*** option to conduct an analysis on the entire population group defined on the *Population – First Population* screen. For example, if you select a WASS+ Strength table, you could analyze the difference in the average Age of males versus females for the entire workforce. If you select a transaction type on the *Data File Types – First Population* screen (e.g., voluntary separations), the ***entire*** option enables you to analyze all employees who have voluntarily separated.

- Use the ***portion*** option to conduct an analysis on a portion (or subset) of the population group defined in the *Population – First Population* screen. The *Portioning – First Population* screen prompts you to identify data elements and values for the portion of the database you select. For example, if you select a WASS+ Strength table and want only the Department of the Treasury agency, Pay Grades 9 through 15, you would select the data elements, Agency and Pay Grade, and codes on this tab to identify the portion of the database you want to analyze.

- Use the ***quick portion*** option to conduct an analysis on a commonly defined portion of the population group defined in the *Population – First Population* screen. The *Quick Portion – First Population* screen allows you to portion the population on either Occupational Category and/or Employee Tenure.

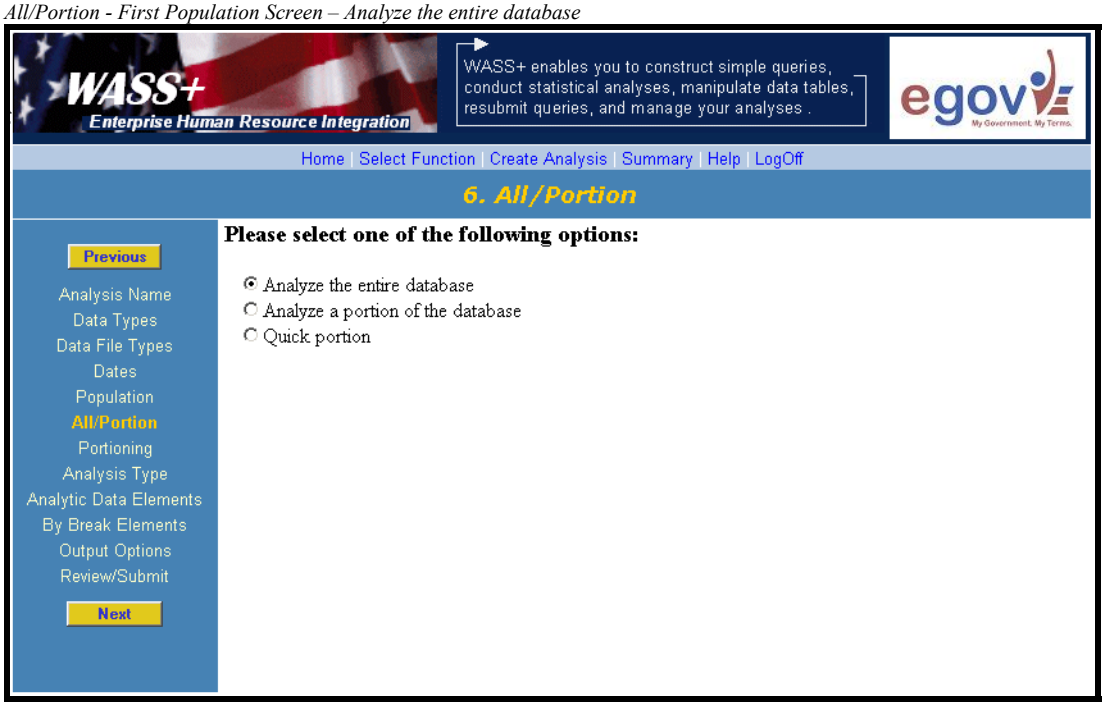
Auxiliary Database Population Groups (a population group created from a non-historical table, e.g. user-loaded table)

- Use the ***entire*** option to conduct an analysis on the entire database. If your data is from a survey of 100,000 employees, this option allows you to analyze ALL 100,000 employees in the database.

- Use the ***portion*** option to conduct an analysis on a portion of the database that you identify. For example, if you have data from a survey of 100,000 employees and you want only to analyze data for employees who respond "yes" to a particular question, select this option in the *Portioning – First Population* screen.

6.6.1.1 Analyze the ENTIRE Database

All/Portion - First Population Screen – Analyze the entire database



Selecting *Analyze the entire database (*the default) enables you to analyze your entire population group for the first population (e.g., all records are included in the analytic query).

Menu Instructions

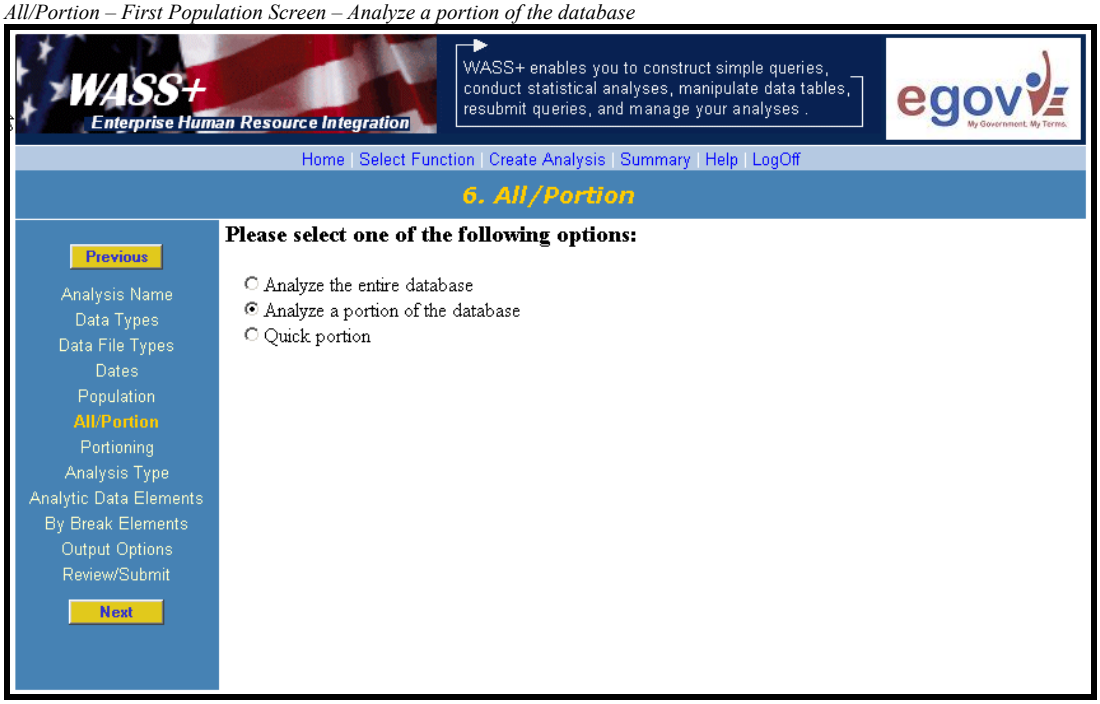
Click ***Previous***. The *Population – Second Population* screen appears.

Click ***Next***. The *All/Portion – Second Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.6.1.2 Analyze a Portion of the Database

All/Portion – First Population Screen – Analyze a portion of the database



Selecting *Analyze a portion of the database* enables you to analyze a self-defined portion of the population group for the first population. Selecting this option also requires that you make further selections on the *Portioning – First Population* screen.

Menu Instructions

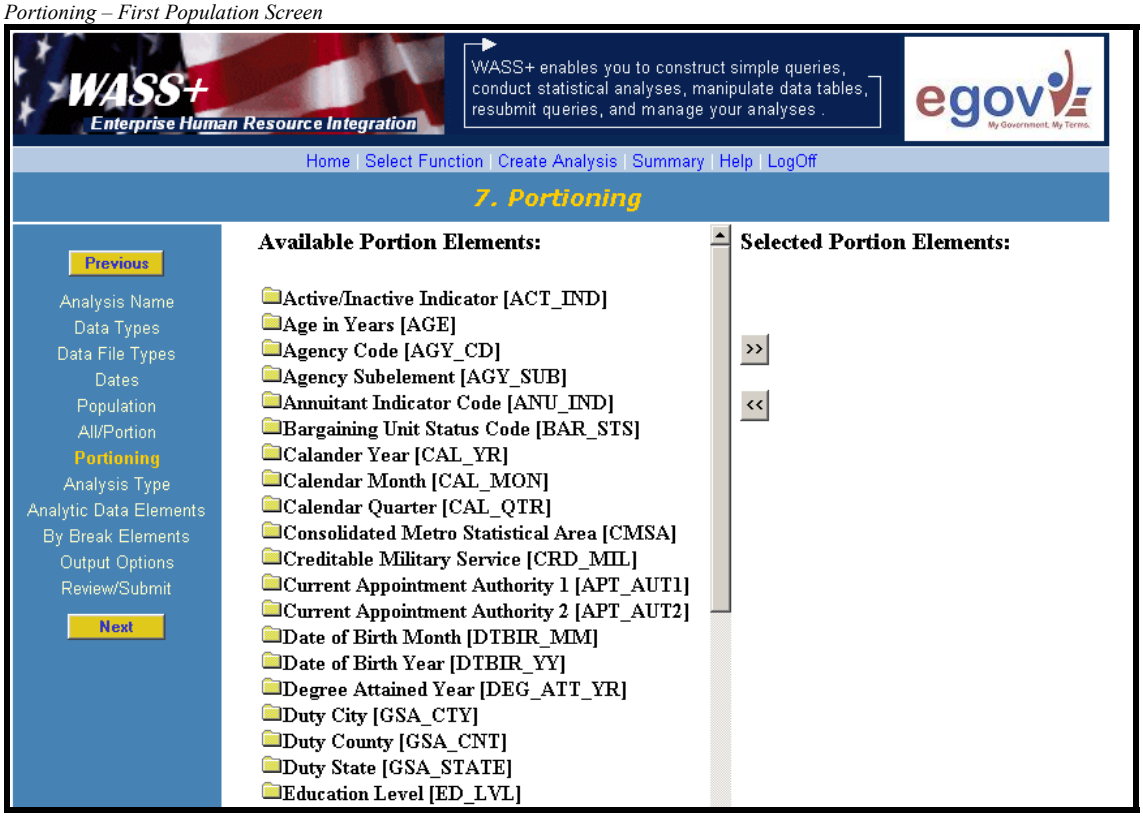
Click ***Previous***. The *Population – Second Population* screen appears.

Click ***Next***. The *Portioning – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.6.2.2.1 Portioning

Portioning – First Population Screen



If you select *Analyze a portion of the database* from the *All/Portion – First Population* screen, the next screen to appear is the *Portioning – First Population* screen. The *Portioning – First Population* screen enables you to conduct an analysis on any segment of the first population. For example, if you selected quarterly data, you might limit your query to a particular Agency and range of Pay Grades—for example, the Department of the Treasury agency, Pay Grades 9 through 15. You would select only those particular data elements and codes in order to identify the portion of the historical database you want to analyze. All available data element codes are contained in the individual *Available Portion Elements* folders.

Expanding Folders

To expand a folder, double-click on the folder. To collapse an expanded list of data element values for any given *Available Portion Element*, double-click again on the expanded folder.

Selecting Codes (from expanded list)

1) Click the data element value in the *Available Portion Elements* folder.
2) Once selected, the data element value appears in the *Selected Portion Elements* list.

Selecting Multiple Codes (from expanded list)

1) Hold down the *Shift* key.
2) Click on the top data element value desired from the *Available Portion Elements* folder.
3) Click on the last data element value desired from the *Available Portion Elements* folder.

Deselecting Codes

1) Click the selected data element value in the *Selected Portion Elements* list.
2) When deselected, the date element value no longer appears in the *Selected Portion Elements* list.

Menu Instructions

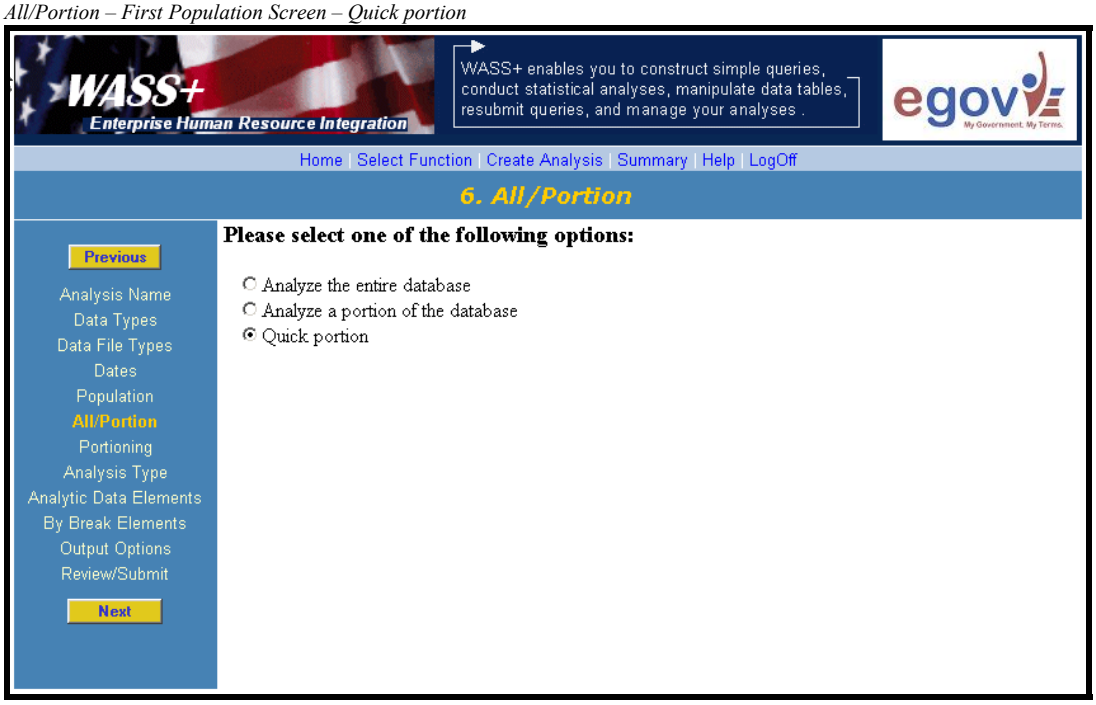
Click ***Previous***. The *All/Portion – First Population* screen appears.

Click ***Next***. The *All/Portion – Second Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.6.1.3 Analyze a Quick Portion of the Database

All/Portion – First Population Screen – Quick portion



Selecting *Quick Portion* enables you to quickly portion the first population on Occupational Category and/or Employee Tenure. Selecting this option also requires that you make further selections on the *Quick Portion - First Population* screen.

Menu Instructions

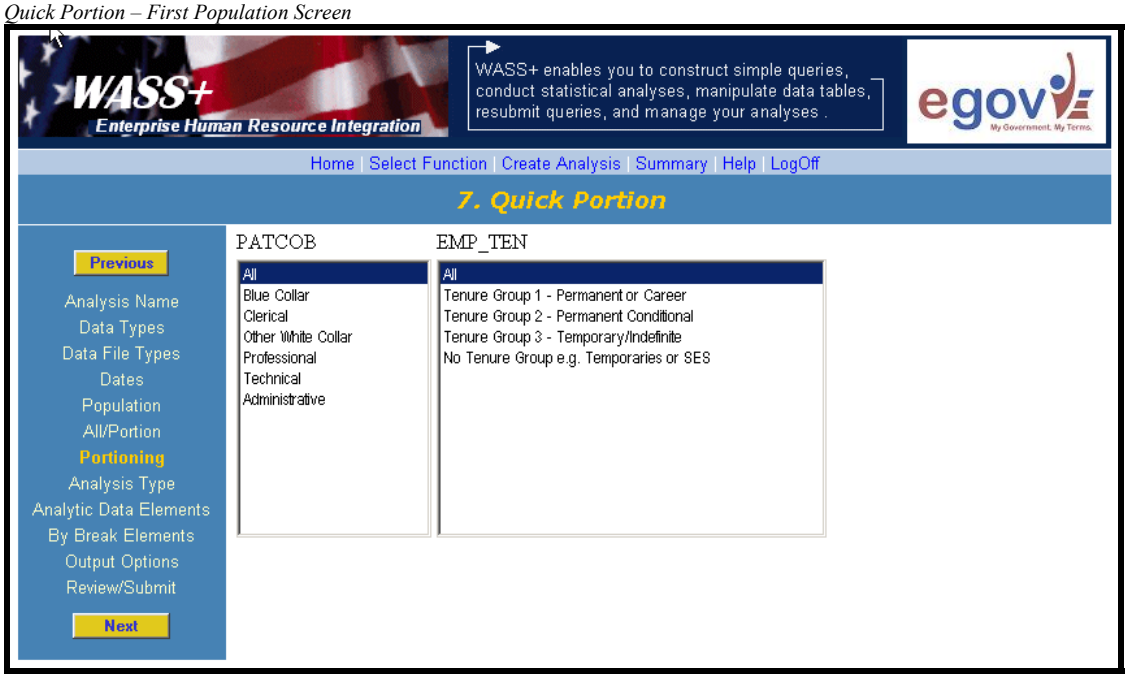
Click ***Previous***. The *Population – Second Population* screen appears.

Click ***Next***. The Q*uick Portion – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.6.1.3.1 Quick Portion

Quick Portion – First Population Screen



If you select *Quick portion* from the *All/Portion* screen, the next screen to appear is the *Quick Portion* screen. The *Quick Portion* screen enables you to quickly portion the population on Occupational Category and/or Employee Tenure. For example, if you selected quarterly data, you might limit your query to a particular Occupational Category and Employee Tenure—for example, the Professional Occupational Category, Tenure Group 1 for Employee Tenure. You would select only those particular codes in order to identify the portion of the historical database you want to analyze.

Occupational Category
The Occupational Category values are 'Blue Collar', 'Clerical', 'Other White Collar', 'Professional', 'Technical', and 'Administrative'. To portion on Occupational Category, choose the desired portion values from the list. If all Occupational Categories in the first population are to be analyzed, select 'All'.

Employee Tenure
The Employee Tenure values are 'Tenure Group 1 – Permanent or Career', 'Tenure Group 2 – Permanent Conditional', 'Tenure Group 3 – Temporary/Indefinite', and 'No Tenure Group e.g. Temporaries or SES'. To portion on Employee Tenure, choose the desired portion values from the list. If all Employee Tenures in the first population are to be analyzed, select 'All'.

Menu Instructions

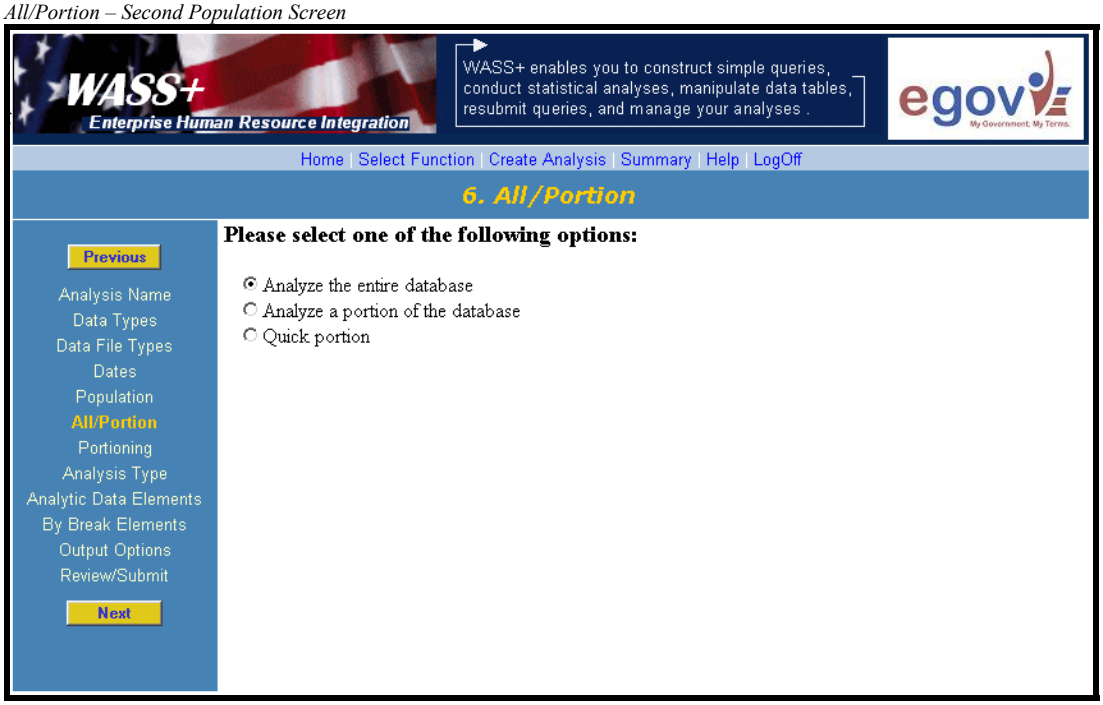
Click ***Previous***. The *All/Portion – First Population* screen appears.

Click ***Next***. The *All/Portion – Second Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.6.2 All/Portion – Second Population

All/Portion – Second Population Screen



The next screen to appear is the *All/Portion – Second Population* screen. Use the *All/Portion – Second Population* screen to make decisions regarding the type and size of the second population group for an analysis. Select one of the following three options by clicking the option button to the left of your selection:

- Analyze the entire database
- Analyze a portion of the database
- Quick portion

Historical Database Population Groups

- Use the ***entire*** option to conduct an analysis on the entire population group defined on the *Population – Second Population* screen. For example, if you select a WASS+ Strength table, you could analyze the difference in the average Age of males versus females for the entire workforce. If you select a transaction type on the *Data File Types – Second Population* screen (e.g., voluntary separations), the ***entire*** option enables you to analyze all employees who have voluntarily separated.

- Use the ***portion*** option to conduct an analysis on a portion (or subset) of the population group defined in the *Population – Second Population* screen. The *Portioning – Second Population* screen prompts you to identify data elements and values for the portion of the database you select. For example, if you select a WASS+ Strength table and want only the Department of the Treasury agency, Pay Grades 9 through 15, you would select the data elements, Agency and Pay Grade, and codes on this tab to identify the portion of the database you want to analyze.

- Use the ***quick portion*** option to conduct an analysis on a commonly defined portion of the population group defined in the *Population – Second Population* screen. The *Quick Portion – Second Population* screen allows you to portion the population on either Occupational Category and/or Employee Tenure.

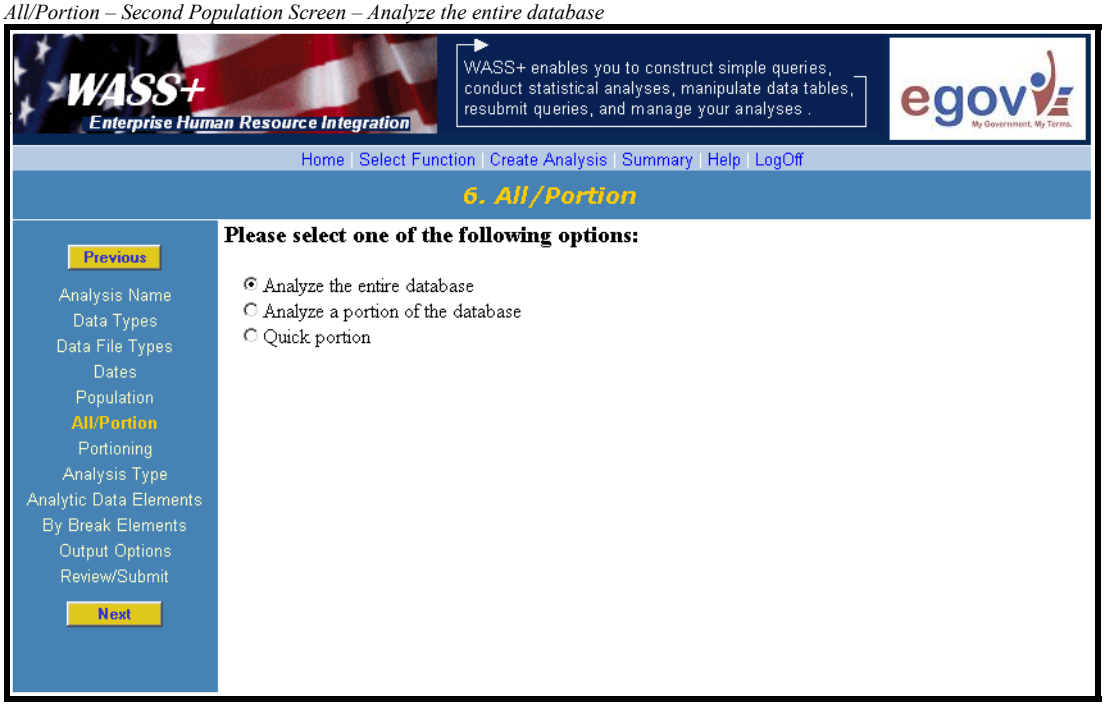
Auxiliary Database Population Groups (a population group created from a non-historical table, e.g. user-loaded table)

- Use the ***entire*** option to conduct an analysis on the entire database. If your data is from a survey of 100,000 employees, this option allows you to analyze ALL 100,000 employees in the database.

- Use the ***portion*** option to conduct an analysis on a portion of the database that you identify. For example, if you have data from a survey of 100,000 employees and you want only to analyze data for employees who respond "yes" to a particular question, select this option in the *Portioning – Second Population* screen.

6.6.2.1 Analyze the ENTIRE Database

All/Portion – Second Population Screen – Analyze the entire database



Selecting *Analyze the entire database (*the default) enables you to analyze the entire population group for the second population (e.g., all records are included in the analytic query).

Menu Instructions

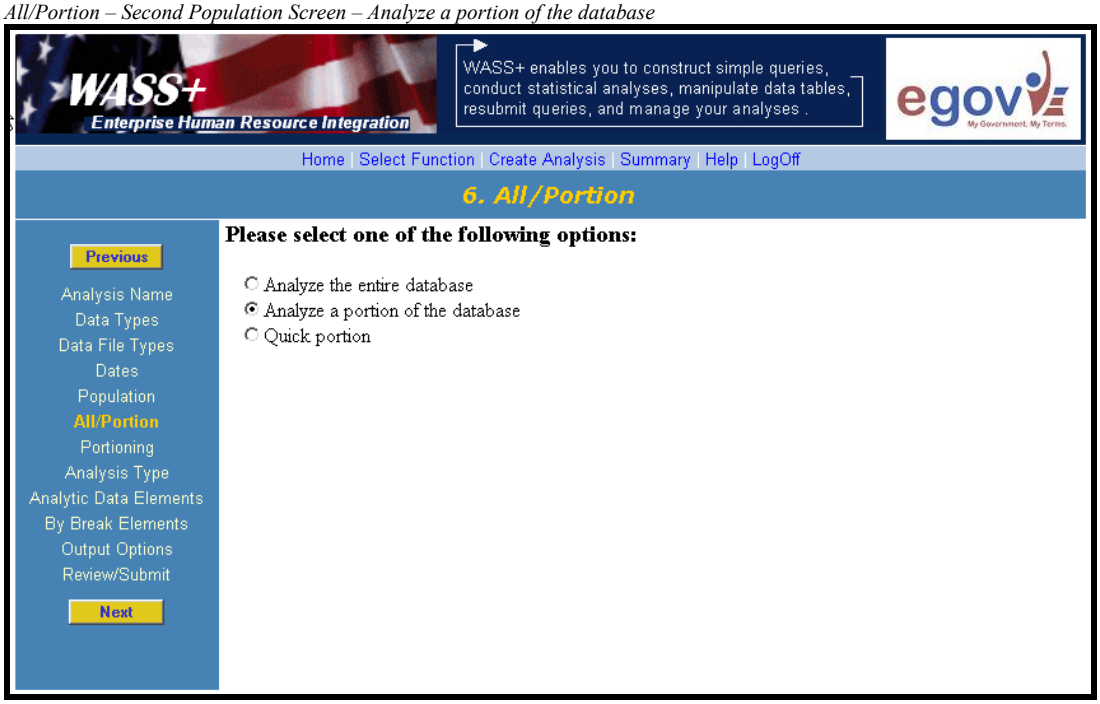
Click ***Previous***. If you selected *Analyze a portion of the database* on the *All/Portion – First Population* screen, the *Portioning – First Population* screen appears. If you selected *Quick portion* on the *All/Portion – First Population* screen, the *Quick Portion – First Population* screen. Otherwise, the *All/Portion – First Population* screen appears.

Click ***Next***. The *Analysis Type* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.6.2.2 Analyze a Portion of the Database

All/Portion – Second Population Screen – Analyze a portion of the database



Selecting *Analyze a portion of the database* enables you to analyze a self-defined portion of a population group for the second population. Selecting this option also requires that you make further selections on the *Portioning – Second Population* screen.

Menu Instructions

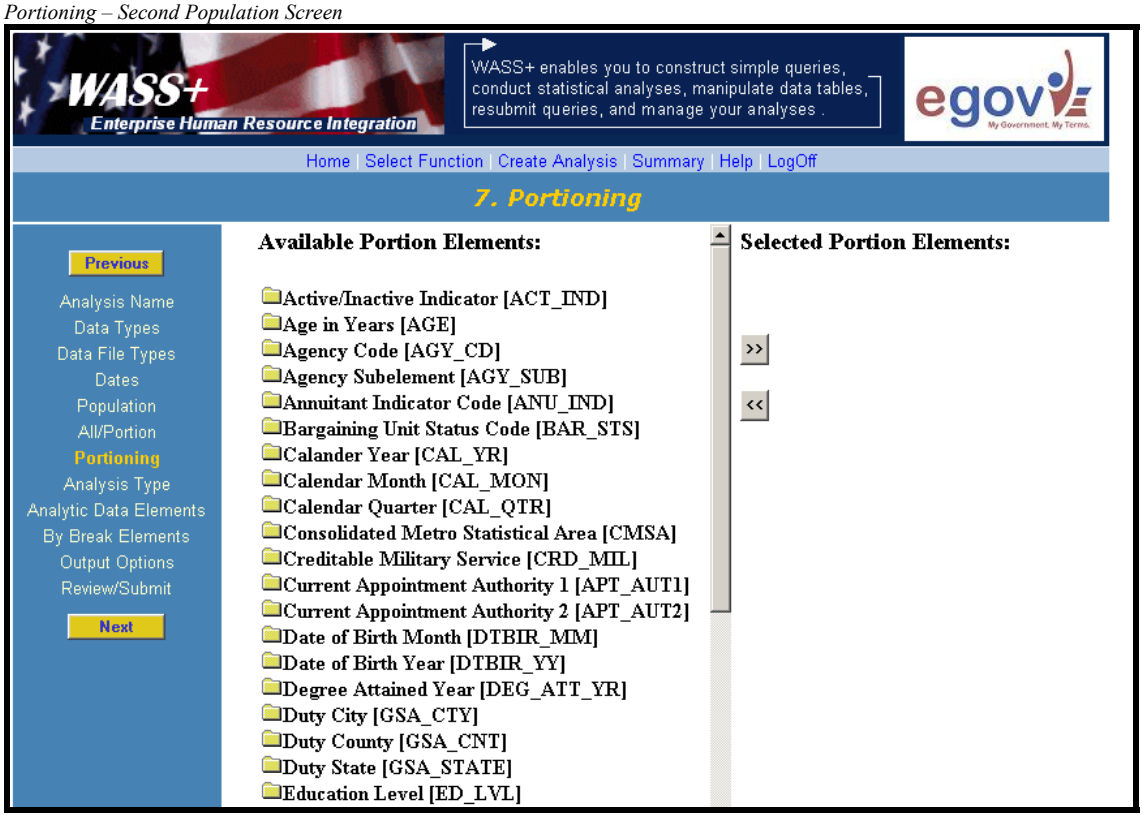
Click ***Previous***. If you selected *Analyze a portion of the database* on the *All/Portion – First Population* screen, the *Portioning – First Population* screen appears. If you selected *Quick portion* on the *All/Portion – First Population* screen, the *Quick Portion – First Population* screen. Otherwise, the *All/Portion – First Population* screen appears.

Click ***Next***. The *Portioning – Second Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.6.2.2.1 Portioning

Portioning – Second Population Screen



If you select *Analyze a portion of the database* from the *All/Portion – Second Population* screen, the next screen to appear is the *Portioning – Second Population* screen. The *Portioning – Second Population* screen enables you to conduct an analysis on any segment of the second population. For example, if you selected quarterly data, you might limit your query to a particular Agency and range of Pay Grades—for example, the Department of the Treasury agency, Pay Grades 9 through 15. You would select only those particular data elements and codes in order to identify the portion of the historical database you want to analyze. All available data element codes are contained in the individual *Available Portion Elements* folders.

Expanding Folders

To expand a folder, double-click on the folder. To collapse an expanded list of data element values for any given *Available Portion Element*, double-click again on the expanded folder.

Selecting Codes (from expanded list)

1) Click the data element value in the *Available Portion Elements* folder.
2) Once selected, the data element value appears in the *Selected Portion Elements* list.

Selecting Multiple Codes (from expanded list)

1) Highlight the codes by clicking on the top element code while holding down the *Shift* key and selecting the last element code.
2) Click on the ***arrow*** keys to move the elements back and forth to the *Selected Portion Elements* field. This technique can be used to highlight and select any number or combination of data elements for movement to and from the *Selected Portion Elements* field.

Deselecting Codes

1) Click the selected data element value in the *Selected Portion Elements* list.
2) When deselected, the date element value no longer appears in the *Selected Portion Elements* list.

Menu Instructions

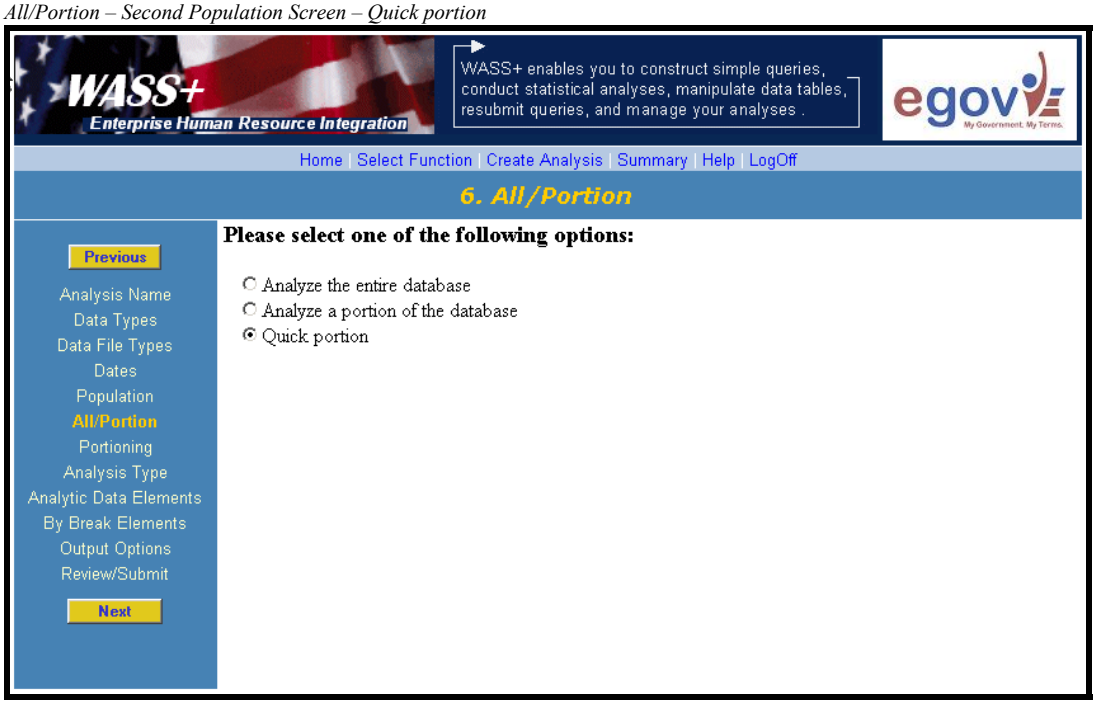
Click ***Previous***. The *All/Portion – Second Population* screen appears.

Click ***Next***. The *Analysis Type* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.6.2.3 Analyze a Quick Portion of the Database

All/Portion – Second Population Screen – Quick portion



Selecting *Quick portion* enables you to quickly portion the second population on Occupational Category and/or Employee Tenure. Selecting this option also requires that you make further selections on the *Quick Portion – Second Population* screen.

Menu Instructions

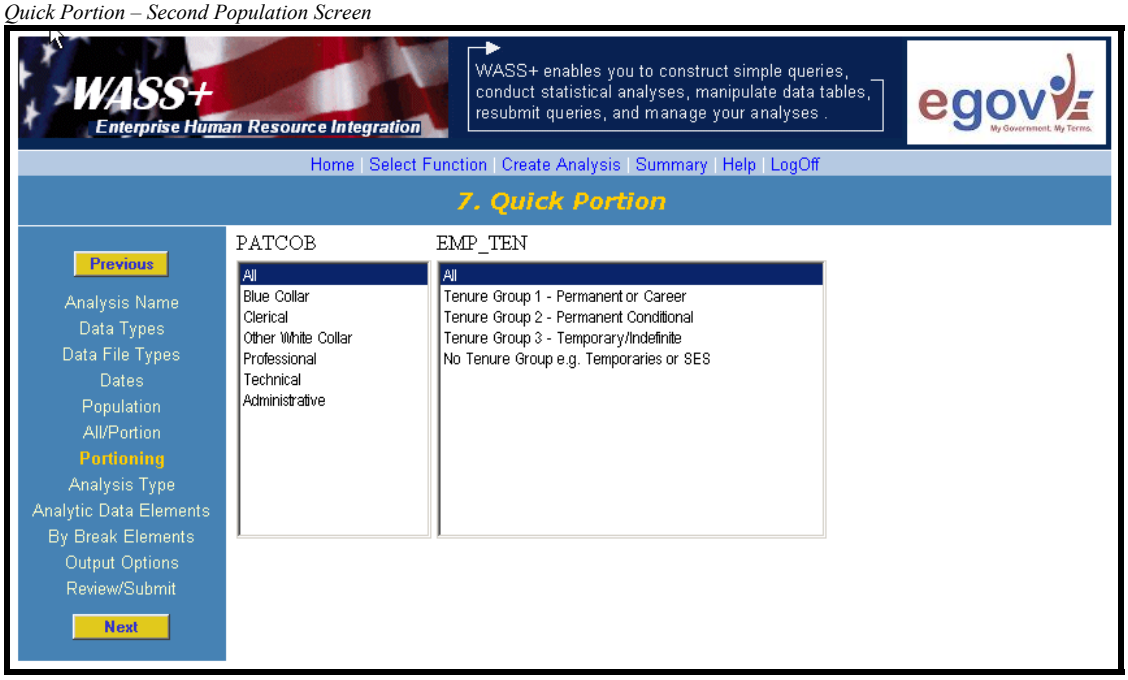
Click ***Previous***. If you selected *Analyze a portion of the database* on the *All/Portion – First Population* screen, the *Portioning – First Population* screen appears. If you selected *Quick portion* on the *All/Portion – First Population* screen, the *Quick Portion – First Population* screen. Otherwise, the *All/Portion – First Population* screen appears.

Click ***Next***. The *Quick Portion – Second Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.6.2.3.1 Quick Portion

Quick Portion – Second Population Screen



If you select *Quick portion* from the *All/Portion – Second Population* screen, the next screen to appear is the *Quick Portion – Second Population* screen. The *Quick Portion – Second Population* screen enables you to quickly portion the second population on Occupational Category and/or Employee Tenure. For example, if you selected quarterly data, you might limit your query to a particular Occupational Category and Employee Tenure—for example, the Professional Occupational Category, Tenure Group 1 for Employee Tenure. You would select only those particular codes in order to identify the portion of the historical database you want to analyze.

Occupational Category

The Occupational Category values are 'Blue Collar', 'Clerical', 'Other White Collar', 'Professional', 'Technical', and 'Administrative'. To portion on Occupational Category, choose the desired portion values from the list. If all Occupational Categories from the second population are to be analyzed, select 'All'.

Employee Tenure
The Employee Tenure values are 'Tenure Group 1 – Permanent or Career', 'Tenure Group 2 – Permanent Conditional', 'Tenure Group 3 – Temporary/Indefinite', and 'No Tenure Group e.g. Temporaries or SES'. To portion on Employee Tenure, choose the desired portion values from the list. If all Employee Tenures from the second population are to be analyzed, select 'All'.

Menu Instructions

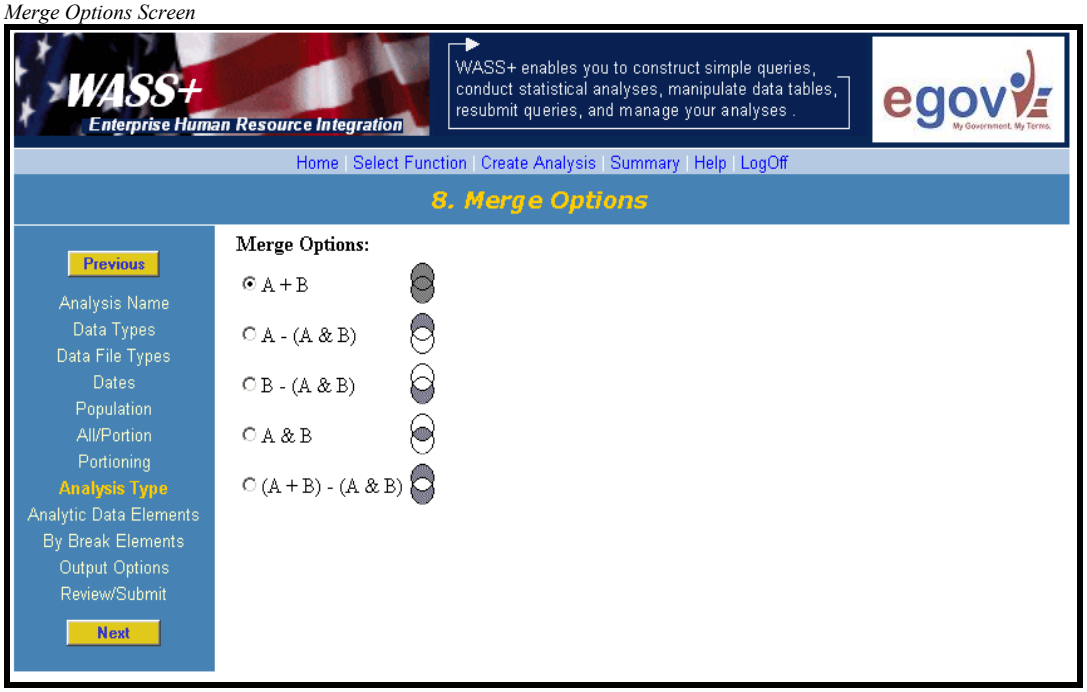
Click ***Previous***. The *All/Portion – Second Population* screen appears.

Click ***Next***. The *Merge Tables* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.7 Merge Options

Merge Options Screen



The next screen is the *Merge Options* screen. Use the *Merge Tables* screen to select the type of merge for the two selected populations.

You must select one of the *Merge Options*.

1) Select one of the five options described below:

Merge Option	Symbol	Action
A + B		Returns all records that exist exclusively in the first population, exclusively in the second population, or jointly in both populations.
A – (A & B)		Returns only those records that exist exclusively in the first population.
B – (A & B)		Returns only those records that exist exclusively in the second population.
A & B		Returns only those records that exist jointly in both populations.
(A + B) – (A & B)		Returns all records that exist exclusively in the first population, or exclusively in the second population.
Have/Have Not		Returns all records that exist exclusively in the first population, exclusively in the second population, or jointly in both populations with special distinction of those records in the first population.

Important Information Regarding Merge Options

- When you merge records from two populations and elect to preserve records that are exclusively in one population or the other, the field values from the other population are set to null.
- When you merge records from a population with multiple records for a given SSN, each record is merged with every record that exists in the second population that contains the same SSN. Thus, if two records existed for a given SSN in the first population and two records existed for the same SSN in the second population, four output records would be created. If you do not desire this result, remove duplicate records when you create the population group.
- The *Have/Have Not* capability is also available. Essentially, when this capability is activated, a data element labeled 'HAVE_HAVENOT' is created and assigned a value of '1' (for 'Match') if the record exists jointly in both populations, or '0' (for 'No Match') if the record is exclusive to the first population. This data element is added to your output table and can then be analyzed like any other data element in the table. This feature is particularly helpful when performing analysis that requires you to segregate your populations into groups that have a certain characteristic versus those who do not (e.g., individuals accessed in 1998 that have received awards versus those who have not). To activate this capability, click in the checkbox provided.

Menu Instructions

Click ***Previous***. If you selected *Analyze a portion of the database* on the *All/Portion – Second Population* screen, the *Portioning – Second Population* screen appears. If you selected *Quick portion* on the *All/Portion – Second Population* screen, the *Quick Portion – Second Population* screen. Otherwise, the *All/Portion – Second Population* screen appears.

Click ***Next***. The *Analysis Type* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.8 Analysis Type

Analysis Type Screen

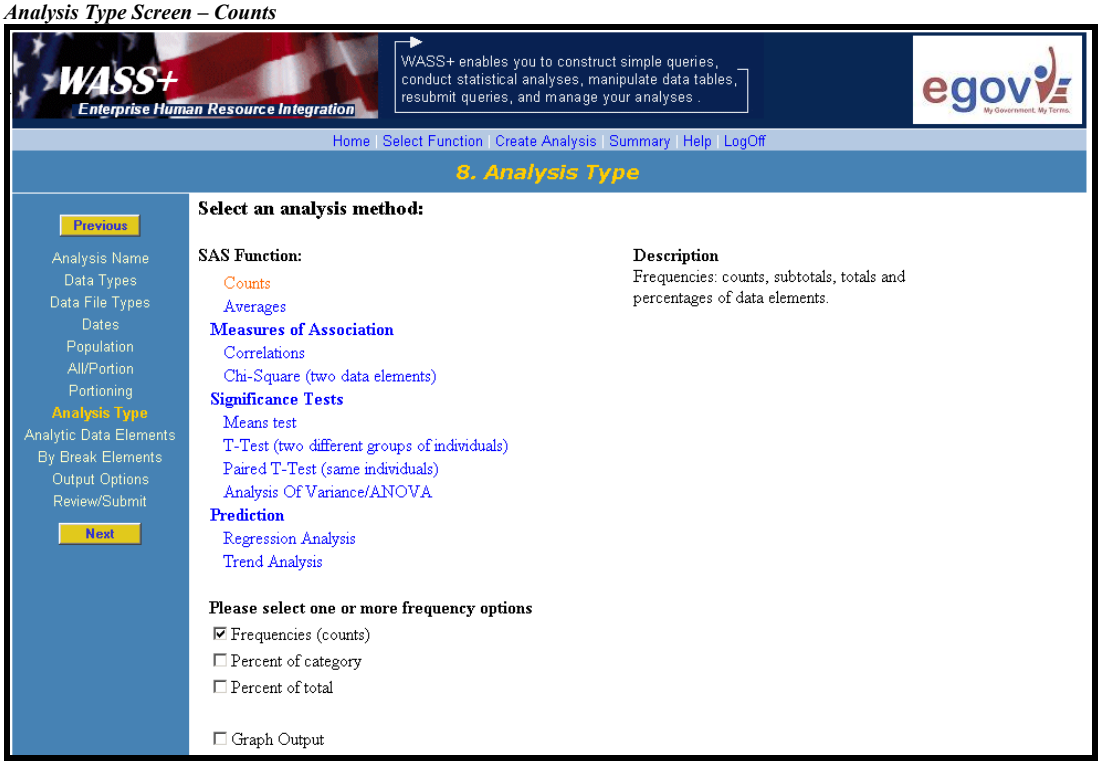
The next screen to appear is the *Analysis Type* screen.

WASS+ provides the following Analysis Types:

- Counts
- Averages
- Correlations
- Chi-Square
- Means Test
- T-Test
- Paired T-Test
- ANOVA
- Regression Analysis
- Trend Analysis

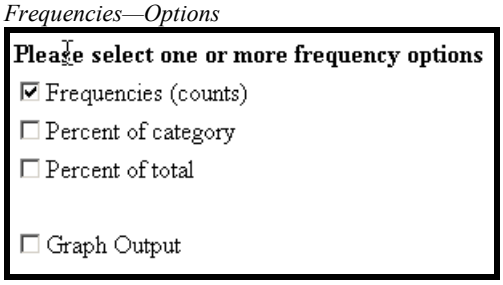
6.8.1 Counts

Analysis Type Screen – Counts



Use the *Counts* test to view the counts for your selected data elements. Examining the results of the *Counts* test shows you whether you have adequate numbers for other analysis methods.

Frequencies—Options



Use the Frequency Options to select parameters for the output format:

- *Frequencies (counts)* provides counts for each classification of the data element (or for multiple data elements) for each combination of classifications. Frequencies (counts) is the default Frequency Option. *Frequencies* (counts) may be turned off (if you desire to see only percentages) by clicking the checkbox.

In addition to generating counts, *one* of the following *Percent* options may be selected:

- *Percent of Category* provides the percentages of the total for *each* classification of the data element—or for multiple data elements—for *each* combination of classifications.
  OR
- *Percent of Total* provides the percentages of the total for ALL classifications of the data element, or for multiple data elements, for *all* combinations of classifications.

Instead of viewing counts or percentages, a *Graph Output* option is available:

- When *Graph Output* is selected, time series or distribution graphs will be produced depending on the number of time periods selected.

Select Analysis Type
Click ***Counts*** on the *Analysis Type* screen.

Menu Instructions

Click ***Previous***. The *Merge Options* screen appears.

Click ***Next***. The *Analytic Data Elements – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.8.1.1 Counts or Percentages

6.8.1.1.1 Select Analytic Data Elements

Analytic Data Elements - First Population Screen

Use the *Analytic Data Elements – First Population* screen to select the principal data elements from the first population that you want to analyze. For example, if you wanted to analyze the Pay Grade of accessions in 1999, you would select Pay Grade as your analytic data element. By examining frequency output listings that show the distribution of data element values, you can evaluate counts, subtotals, totals and percentages of data elements.

You may select up to nine *analytic data elements* from the list provided by the system. One frequency output is created for each data element selected.

Selecting 1 to 9 Data Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected* list.

Deselecting Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

Click ***Previous***. The *Analysis Type* screen appears.

Click ***Next***. The *Analytic Data Elements – Second Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.8.1.1.2 Select Analytic Data Elements

Analytic Data Elements - Second Population Screen

Use the *Analytic Data Elements – Second Population* screen to select the principal data elements from the second population that you want to analyze. For example, if you wanted to analyze the Pay Grade of accessions in 1999, you would select Pay Grade as your analytic data element. By examining frequency output listings that show the distribution of data element values, you can evaluate counts, subtotals, totals and percentages of data elements.

You may select up to nine *analytic data elements* from the list provided by the system. One frequency output is created for each data element selected.

Selecting 1 to 9 Data Elements

1) Click the data element in the *Select Data Elements* list.
2) Once selected, the data element appears in the *Selected* list.

Deselecting Data Elements

1) Click the selected data element in the *Selected* list.
2) When deselected, the data element no longer appears in the *Selected* list.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

Click ***Previous***. The *Analytic Data Elements – First Population* screen appears.

Click ***Next***. The *By Break Elements – First Population* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.8.1.1.3 Select By Break Elements

By Break Elements- First Population Screen

Use the *By Break Elements – First Population* screen to conduct your analysis *BY* the data elements that you want. For example, if you want to analyze the performance appraisal ratings of minorities in the Department of the Air Force Agency by Sex and Pay Grade, you would select Sex and Pay Grade on this menu.

Omit By Break Elements

If you do not want your results to be broken out *BY* any data element, check the *Omit By Break Elements* box. If you change your mind, uncheck the *Omit By Break Elements* box.

Selecting 1 to 9 By Break Elements

1) Click the by break element in the *Select By Break Elements* list.
2) Once selected, the by break element appears in the *Selected* list.

Deselecting By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Click the ***left arrow*** button to deselect the selected by break element.

Arranging By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Use the ***up*** and ***down arrows*** on the right to position the by break element in the selected list.

As you select *by break elements*, notice that the order of your selection is maintained. *By break elements* may be easily re-sequenced, however, by highlighting the selected b*y break element* to be moved, and clicking the ***up*** *or* ***down arrows*** to the right.

The order (or sequence) of your selections determines how the *BY* break elements will be combined and how the results will be calculated and displayed in your output. In the example above, if Sex is in the first position and Pay Grade is in the second position, Pay Grade will be embedded within each value of Sex. If reversed (i.e., Pay Grade is in the first position and Sex is in the second position), Sex will be embedded within each value of Pay Grade.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

Click ***Previous***. The *Analytic Data Elements s*creen appears.

Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.8.1.1.4 Select By Break Elements

By Break Elements- Second Population Screen

Use the *By Break Elements – Second Population* screen to conduct your analysis *BY* the data elements that you want. For example, if you want to analyze the performance appraisal ratings of minorities in the Department of the Air Force Agency by Sex and Pay Grade, you would select Sex and Pay Grade on this menu.

Omit By Break Elements

If you do not want your results to be broken out *BY* any data element, check the *Omit By Break Elements* box. If you change your mind, uncheck the *Omit By Break Elements* box.

Selecting 1 to 9 By Break Elements

1) Click the by break element in the *Select By Break Elements* list.
2) Once selected, the by break element appears in the *Selected* list.

Deselecting By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Click the ***left*** *arrow* button to deselect the selected by break element.

Arranging By Break Elements

1) Click to highlight a selected by break element in the *Selected* list.
2) Use the ***up*** and ***down arrows*** on the right to position the by break element in the selected list.

As you select *by break elements*, notice that the order of your selection is maintained. *By break elements* may be easily re-sequenced, however, by highlighting the selected b*y break element* to be moved, and clicking the ***up*** or ***down arrows*** to the right.

The order (or sequence) of your selections determines how the *BY* break elements will be combined and how the results will be calculated and displayed in your output. In the example above, if Sex is in the first position and Pay Grade is in the second position, Pay Grade will be embedded within each value of Sex. If reversed (i.e., Pay Grade is in the first position and Sex is in the second position), Sex will be embedded within each value of Pay Grade.

Regroup

Click ***Regroup*** to regroup the codes for some or all of the analytic data elements selected for your analysis. Data elements you do not want to regroup *will not* be dropped from your analysis. For example, if you select *Pay Grade* and click ***Regroup***, the next menu will display *Pay Grade* again with a list of data element values, and you can select the data element values you want to regroup. The *Regroup* option allows you to combine codes the way you want them for your analysis (e.g., if you chose to regroup *Pay Grade*, you could combine *Grades 6, 7 and 8* into one group and *Grades 9, 10 and 11* into another group). Regrouping is optional.

Menu Instructions

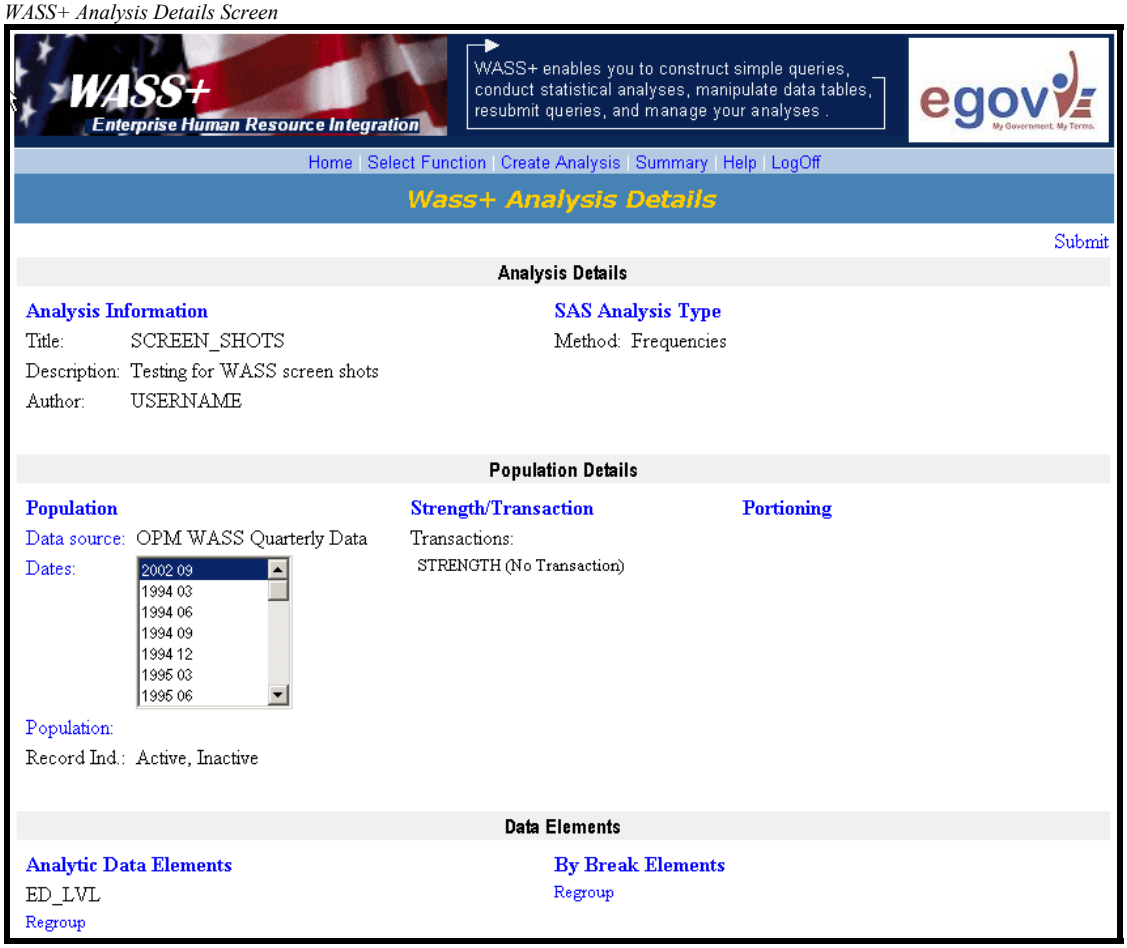
Click ***Previous***. The *By Break Elements – First Population s*creen appears.

Click ***Next***. The *WASS+ Analysis Details* screen appears.

Click ***Help*** to access WASS+ online Help instructions.

6.8.1.1.5 WASS+ Analysis Details

WASS+ Analysis Details Screen



The next screen to appear is the *WASS+ Analysis Details* screen, displaying all the aspects of your analysis. You may edit any aspect of the analysis by selecting the particular area you want to edit, and you will advance to that particular screen to make changes. Once you make changes, select ***Next***, and you will return to this screen. Once you are satisfied with the selections made for the analysis, click ***Submit*** to advance to the *Review/Submit* screen.

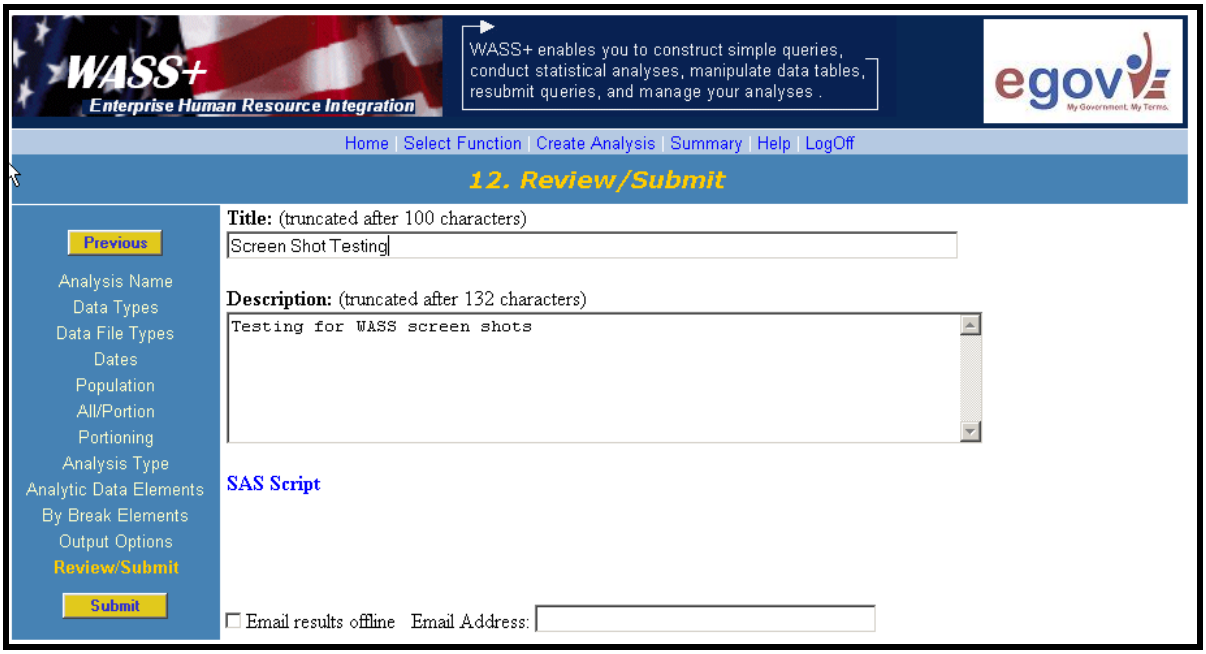
Menu Instructions

Click ***Submit*** to submit your analysis. The *Review/Submit* screen will appear.

Click ***Help*** to access WASS+ online Help instructions.

6.8.1.1.6 Review/Submit

Review/Submit Screen



The next screen to appear is the *Review/Submit* screen, displaying the *Title* and *Description* for your analysis. In addition, the user has the option to view the *SAS Script* associated with the analysis and *Email Results* to an *Email Address*.

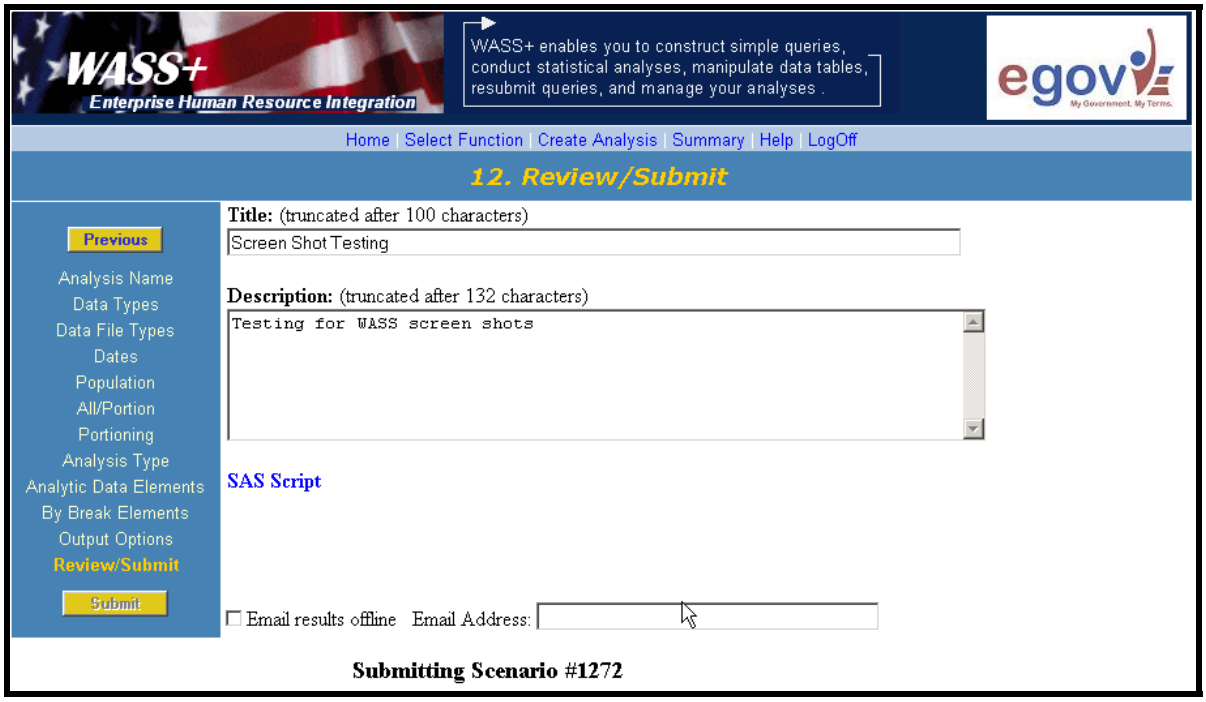
Title
The *Title* field displays the title of your analysis.

Description
The *Description* field provides the description of your analysis.

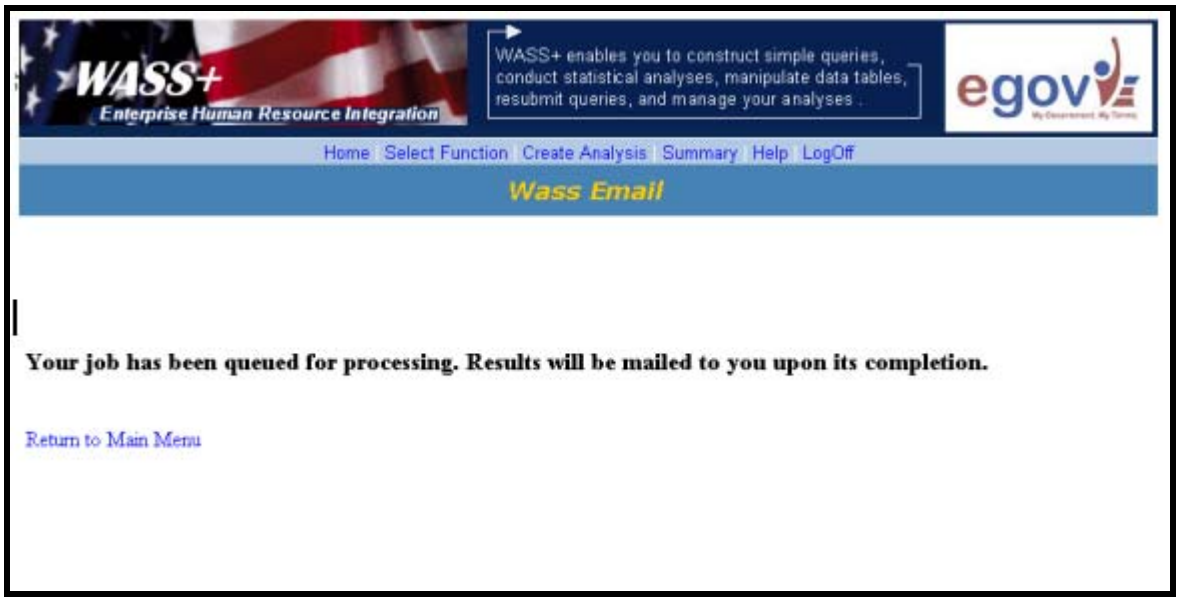
SAS Script
Click ***SAS Script*** to view the SAS script associated with your analysis.

Email Results/ Email Address
Check the box next to *Email Results Offline* if you wish to have email notification of your analysis results. If you click this box, also place your email address in the *Email Address* field.

Review/Submit Screen



The message *Submitting Scenario* will appear on the screen once the analysis has been submitted. Results will be displayed on the screen once the query has completed.



If the *Email results offline* option is chosen, the message *Your job has been queued for processing. Results will be mailed to you upon its completion* will appear on the screen once the analysis has been submitted.

Appendix A: WASS+ Data Elements Descriptions and Availability

Additional information on WASS+ computed elements is located at the end of this data element listing.

Data Element	Long Name	Source	Description	Start Date	End Date
ACT_IND	Active/Inactive Indicator	CPDF	An indicator identifying whether or not an employee is in an active or inactive status.	1994-03	Current
ADJ_PAY	Adjusted Pay	CPDF		1994-03	Current
AGE	Age	Computed	An employee's age in years (established using date of birth).	1994-03	Current
AGY_CD	Agency Code	CPDF	Agency in which a person is employed	1994-03	Current
AGY_SUB	Agency/Subelement Code	CPDF	Agency and, where applicable, the administrative subdivision in which a person is employed	1994-03	Current
ANU_IND	Annuitant Indicator	CPDF	The status of an annuitant appointed to a position in the Federal Civilian Service.	1994-03	Current
APT_AUT1	Current Appointment Authority 1	CPDF	The law, executive order, rule, or other that authorized the most recent conversion or accession action.	1994-03	Current
APT_AUT2	Current Appointment Authority 2	CPDF	Law, executive order, rule, regulation, or other basis that, in addition to Current Appointment Authority 1, authorizes an employee's most recent conversion or accession action.	1994-03	Current
BAR_STS	Bargaining Unit Status	CPDF	A code representing the specific bargaining unit an employee is a member of.	1994-03	Current
CAL_MON	Calendar Month	Computed	The calendar month (MM) of the selected record.	1994-03	Current
CAL_QTR	Calendar Quarter	Computed	The calendar quarter (Q) of the selected record.	1994-03	Current
CAL_YR	Calendar Year	Computed	The calendar year (YYYY) of the selected record.	1994-03	Current
CMSA	Consolidated Metro Statistical Area	CPDF	A geographic area consisting of a number of metropolitan statistical areas.	1994-03	Current
COLA	Cost of Living Allowance	CPDF	The annual total dollar amount paid to employees in designated allowance areas with unusually high living costs relative to Washington, DC.	1994-03	Current

Data Element	Long Name	Source	Description	Start Date	End Date
COLLAR	Collar	Computed	A code of either 'W' for white or 'B' for blue based on an individual's pay plan. Pay plans AD, CA, CZ, ED, EE, EF, EG, EH, EI, ES, EX, FC, GG, GM, GO, GS, IE, SR, ST, and SZ are mapped to 'W'; all others are mapped to 'B'.	1994-03	Current
CRD_MIL	Creditable Military Service	CPDF	The total number of years (00-99) and months (00-11) of military service (computed at time of appointment) that are creditable for annual leave accrual purposes.	1994-03	Current
DEG_ATT_YR	Year Degree Attained	CPDF	The year in which an employee received their academic degree.	1994-03	Current
DTBIR_MM	Date of Birth - Month	CPDF	Month (MM) in which an employee was born.	1994-03	Current
DTBIR_YY	Date of Birth - Year	CPDF	Year (YYYY) in which an employee was born.	1994-03	Current
ED_LVL	Educational Level	CPDF	The extent of the employee's educational attainment from an accredited institution.	1994-03	Current
ELIG_EAR_RET_DATE	Eligible for Early Retirement Date	Computed	The date upon which an employee becomes eligible for early retirement.	1994-03	Current
ELIG_OPT_RET_DATE	Eligible for Optional Retirement Date	Computed	The date upon which an employee becomes eligible for optional retirement.	1994-03	Current
ELIG_RET_DATE	Eligible for Retirement Date	Computed	The date upon which an employee becomes eligible for retirement.	1994-03	Current
EMP_TEN	Employee Tenure	CPDF	The retention group in which an employee is placed based on the employee's type of appointment, used for the purposes of a reduction in force (RIF).	1994-03	Current
FEGLI	Federal Employee Group Life Insurance	CPDF	An employee's coverage or non-coverage under the Federal Employee's Group Life Insurance (FEGLI).	1994-03	Current
FEHB	Federal Employee Health Benefit	CPDF	The health benefit plan (carrier and enrollment plans) in which the employee is currently enrolled.	1994-03	Current
FERS_COV	Federal Employee Retire System	CPDF	Indicator of how an employee came to be covered under the Federal Employees' Retirement System (FERS).	1994-03	Current
FIS_MON	Fiscal Month	Computed	The fiscal month (MM) of the selected record.	1994-03	Current
FIS_QTR	Fiscal Quarter	Computed	The fiscal quarter (Q) of the selected record.	1994-03	Current
FIS_YR	Fiscal Year	Computed	The fiscal year (YYYY) of the selected record.	1994-03	Current

Data Element	Long Name	Source	Description	Start Date	End Date
FLSA_CD	Fair Labor Standards Act Code	CPDF	The status of the Federal civilian employee under the Authority of Section 13 of the Fair Labor Standards Act as amended (29 U.S.C. 213).	1994-03	Current
FNC_CLS	Functional Classification	CPDF	The employee's primary work function (applies to scientists and engineers only).	1994-03	Current
FRZ_CSRS	Frozen Service	CPDF	The total years (01-99) and months (01-12) of civilian and military service, creditable for the calculation of the Service Computation Date (Leave), at the time the employee first becomes covered by FICA and CSRS (Retirement Plan codes C and E) or by FERS and FICA (Retirement Plan codes K, L, M, and N).	1994-03	Current
GS_GRADE	GS Grade	CPDF		1994-03	Current
GSA_CNT	Duty County	CPDF	The county that identifies the geographic location of the employee's official duty station.	1994-03	Current
GSA_CTY	Duty City	CPDF	The city that identifies the geographic location of the employee's official duty station.	1994-03	Current
GSA_STATE	Duty State/Territory	CPDF	The state/territory that identifies the geographic location of the employee's official duty station.	1994-03	Current
HRLY_ADJ_PAY	Hourly Adjusted Pay	Computed		1994-03	Current
HRLY_PAY	Hourly Pay	Computed		1994-03	Current
INSPGM	Instructional Program	CPDF	The employee's major field of study at an institution for higher education.	1994-03	Current
LOC_ADJ	Locality Adjustment	CPDF	Adjusted basic pay minus basic pay.	1994-03	Current
LOC_PAY_AREA	Locality Pay Area	CPDF	Identification of an area for purposes of locality-based comparability payments.	1994-03	Current
METRO_AREA	Metropolitan Statistical Area	CPDF	A geographic area consisting of a large population nucleus together with adjacent communities having a high degree of economic and social integration with that nucleus.	1994-03	Current
OCC_SER	Occupational Series	CPDF	The specific occupation to which an employee is assigned by a personnel action.	1994-03	Current
ORG_COMP	Organizational Component	CPDF	The category to which an occupational series belongs.	1994-03	Current
PATCOB	Occupational Category	CPDF	The specific category to which an employee's occupational series belongs.	1994-03	Current

Data Element	Long Name	Source	Description	Start Date	End Date
PAY_BAS	Pay Basis	CPDF	The principal condition in terms of time, or other criteria that determines compensation paid to an employee.	1994-03	Current
PAY_DET	Pay Rate Determinant	CPDF	A designation of any special factors that help determine an employee's rate of basic pay or adjusted basic pay.	1994-03	Current
PAY_GRD	Pay Grade	CPDF	An indicator of hierarchical relationships among positions covered by the same pay plan or system.	1994-03	Current
PAY_PLN	Pay Plan	CPDF	A particular table or array of pay rates prescribed by law or other authoritative source that establishes the basic pay rates for certain employees.	1994-03	Current
PAY_STP	Pay Step	CPDF	An indicator of a specific salary within a grade, level, class, rank, or pay band.	1994-03	Current
POI	Personnel Office Identifier	CPDF	Identification of the Federal civilian personnel office authorized to appoint and separate an employee. Personnel office authorized to prepare personnel actions, maintain official personnel records, etc., for an employee.	1994-03	Current
POS_OCC	Position Occupied	CPDF	Employee's position in the Competitive, Excepted Service, or Sr. Executive Service.	1994-03	Current
POS_SPV	Position Supervisory	CPDF	The nature of the managerial, supervisory, or non-supervisory responsibility assigned to an employee.	1994-03	Current
RAT_REC_LVL	Rating of Record (Level)	CPDF	The summary level assigned to a rating of record.	1994-03	Current
RAT_REC_PATRN	Rating of Record (Pattern)	CPDF	The specific summary levels which can be assigned to a rating of record under an appraisal program.	1994-03	Current
RAT_REC_PERIOD	Rating of Record (Period)	CPDF	The ending date of the appraisal period for which the Rating of Record (Level) was issued.	1994-03	Current
RET_ALW	Retention Allowance	CPDF	The annual total dollar amount to an essential employee with unusually high qualifications or special skills where the agency determines that the employee would be likely to leave if no allowance were paid.	1994-03	Current

Data Element	Long Name	Source	Description	Start Date	End Date
RET_PAY_GRD	Retained Pay Grade	CPDF	The grade an employee retains when moving to a position in a covered pay schedule which is lower in grade than the position held immediately prior to a demotion that results from a reduction in force, a reclassification, or a management decision as described in 5 CFR 536.103(b).	1994-03	Current
RET_PAY_PLN	Retained Pay Plan	CPDF	The pay plan an employee retains when moving to a position in a covered pay schedule which is lower in grade than the position held immediately prior to a demotion that resulted from a reduction in force, a reclassification, or a management decision described in 5 CFR 536.103(b).	1994-03	Current
RET_STEP	Retained Pay Step	CPDF	The pay rate step an employee retains when moving to a position in a covered pay schedule which is lower in grade than the position held immediately prior to a demotion that resulted from a reduction in force, a reclassification, or a management decision as described in 5 CFR 536.103(b)	1994-03	Current
RETIRE_ELIG	Retirement Eligibility	Computed	Calculated code used to identify those employees eligible for retirement.	1994-03	Current
RETIRE_SYS	Retirement Plan	CPDF	Civilian retirement system(s) to which deductions from an employee's pay are credited.	1994-03	Current
RNO	Race/National Origin	CPDF	Basic racial and national origin category of an employee.	1994-03	Current
RPT_HND	Reportable Handicap	CPDF	Physical or mental impairment, which substantially limits one or more major life activities; the record of such impairment; or the perception of such impairment by others.	1994-03	Current
SAL_WAG	Salary	Computed	Amount of money earned by an employee per unit of work.	1994-03	Current
SENIOR_PAY_IND	Senior Pay Level Indicator	Computed		1994-03	Current
SEX	Sex	CPDF	Indicator of the employee's Sex.	1994-03	Current

Data Element	Long Name	Source	Description	Start Date	End Date
SP_TABLID	Special Pay Table Identifier	CPDF	A code used to differentiate between different rates of pay for employees with identical pay plans, occupation code, grade, step and pay basis combinations.	1994-03	Current
SPV_DIF	Supervisory Differential	CPDF	The annual total dollar amount paid, over and above Basic Pay, to a General Schedule supervisor who otherwise would be paid less than one or more of the civilian employees supervised.	1994-03	Current
ST_TRANS	Strength/Transaction Type	Computed	A WASS+ system generated variable identifying the category of data selected for analysis.	1994-03	Current
SVCD_MO	Service Computation Date – Month	CPDF	Month from which creditable service is derived for leave accrual purposes.	1994-03	Current
SVCD_YR	Service Computation Date – Year	CPDF	The year from which creditable service is derived for leave accrual purposes.	1994-03	Current
TIME_TO_EAR_RET	Time to Early Retirement	Computed	The total time that an employee has been eligible for early retirement.	1994-03	Current
TIME_TO_OPT_RET	Time to Optional Retirement	Computed	The total time that an employee has been eligible for optional retirement.	1994-03	Current
TIME_TO_RET	Time to Retirement	Computed	The total time that an employee has been eligible for retirement.	1994-03	Current
TOTAL_PAY	Total Pay	CPDF	The sum of ADJUSTED BASIC PAY plus any administratively uncontrollable overtime (AUO) pay, availability pay, RETENTION ALLOWANCE, or SUPERVISORY DIFFERENTIAL after taking into account all pay caps that may be applicable.	1994-03	Current
TYP_APT	Type of Appointment	CPDF	The nature of an employee's current appointment.	1994-03	Current
US_CTZ	United States Citizenship	CPDF	An indicator of whether or not an employee is a citizen of the United States (established using original code in database).	1994-03	Current
VET_PRF	Veterans Preference	CPDF	Employee's category of entitlement to preference at time of appointment in Federal service based on active military service that terminated honorably.	1994-03	Current
VETSTS	Veterans Status	CPDF	Indicator of whether an employee is a veteran as defined by 38 U.S.C. 101.	1994-03	Current

Data Element	Long Name	Source	Description	Start Date	End Date
WRK_SCH	Work Schedule	CPDF	Time basis on which an employee is scheduled to work.	1994-03	Current
YOS	Years of Service	CPDF	The total amount of Federal Service an individual has completed, in years (based on his/her Service Computation Date for Leave).	1994-03	Current

Additional Information on WASS+ Computed Elements

For additional information on WASS+ computed elements, see the following sections:

- Fiscal and Calendar Dates
- Retirement Eligibility Variables

1.0 Fiscal and Calendar Dates

All data elements chosen in WASS+ Historical tables are associated with specific "as of" or "transaction" dates. These dates can be converted to either calendar or fiscal date values for the purpose of displaying these dates on output reports. Calendar years begin in January and end in December, while fiscal years begin in October and end in September. The following table illustrates the computation of calendar and fiscal dates in WASS+:

Example	Calendar Year	Calendar Quarter	Calendar Month	Fiscal Year	Fiscal Month	Fiscal Quarter
January 1999	1999	1	01	1999	04	2
February 1999	1999	1	02	1999	05	2
March 1999	1999	1	03	1999	06	2
April 1999	1999	2	04	1999	07	3
May 1999	1999	2	05	1999	08	3
June 1999	1999	2	06	1999	09	3
July 1999	1999	3	07	1999	10	4
August 1999	1999	3	08	1999	11	4
September 1999	1999	3	09	1999	12	4
October 1999	1999	4	10	2000	01	1
November 1999	1999	4	11	2000	02	1
December 1999	1999	4	12	2000	03	1

2.0 Retirement Eligibility Variables

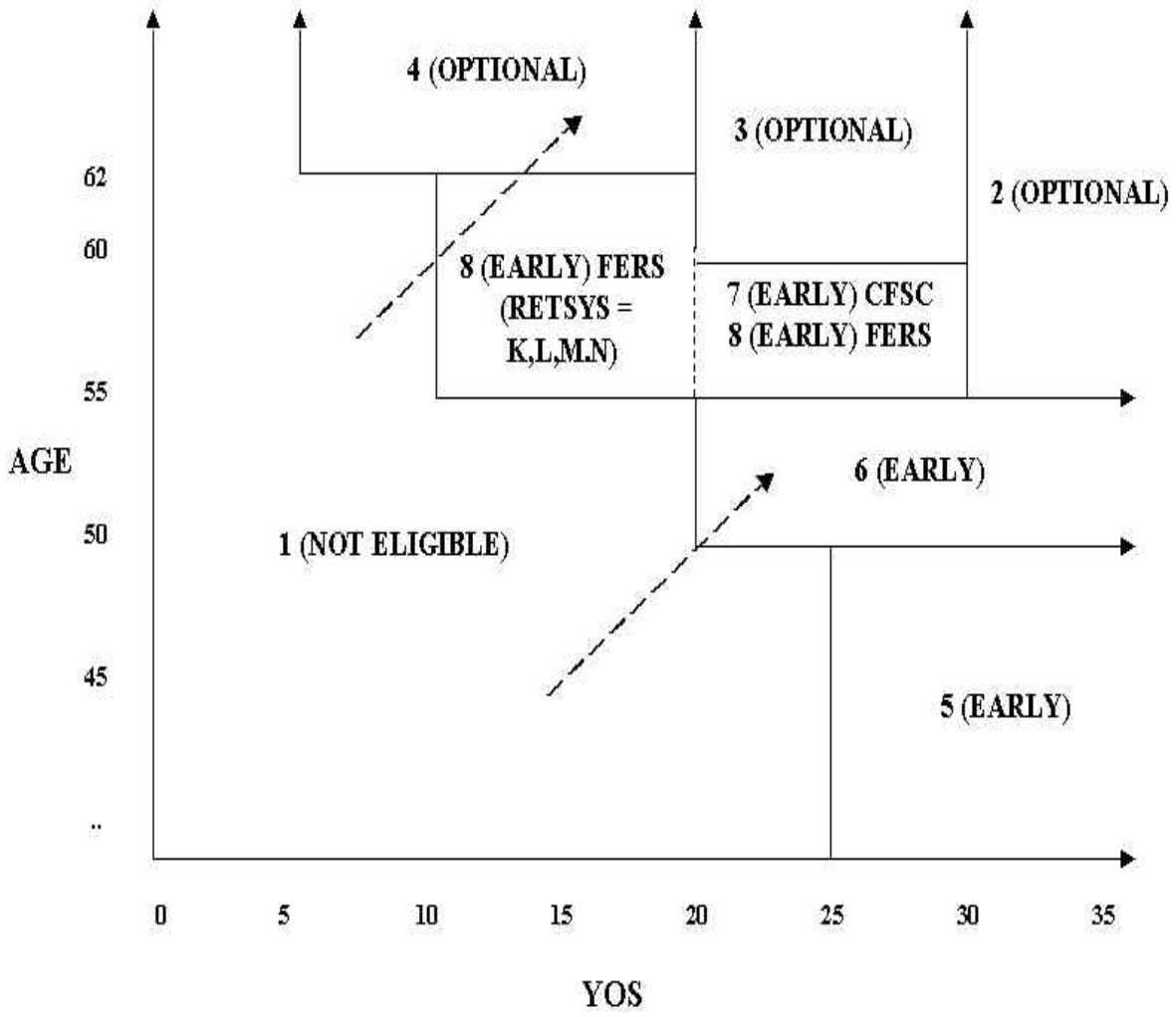
The Retirement Eligibility Code is calculated by the system using three variables:

- Retirement Plan Code
- Year of Service (calculated from the Service Computation Date)
- Age (calculated from the Date of Birth)

The table below identifies each Retirement Eligibility Code, the appropriate Category, and the corresponding requirements to be assigned to the category. For example, an individual with a Retirement Code of M who had completed 14 YOS and was 60 years old would be assigned a Retirement Eligibility Code of 8. All records are assigned a default Retirement Eligibility Code of 1 (Not Eligible) unless a Retirement Eligibility code of 2-8 is otherwise assigned.

Retire_Elig Code	Category	Ret Code	YOS	AGE
1	Not Eligible	-	-	-
2	Optional	Any	30+	55+
3	Optional	Any	20-29	60+
4	Optional	Any	5-19	62+
5	Early	Any	25+	Under 50
6	Early	Any	20+	50-54
7	Early	Not (K,L,M,N)	20-29	55-59
8	Early (FERS)	K,L,M,N	10-29	55-59
			10-19	60-61

Projected Retirement Eligibility Codes represent simple approximations that hold all factors constant with the exception of age and YOS. For example, someone currently age 62 years old and having 19 YOS would be assumed to be age 63 with 20 YOS next year. The projected calculations assume no changes to Retirement Codes, no breaks in service, and that everyone currently in the population will continue to be in future populations. Obviously, the further in the future these Projected Retirement Eligibility Codes extend, the less valid these projections will be, but they do provide a relative measure of potential eligible populations that can be compared for different population groups. The chart below illustrates how this aging process works, and how codes for any given individual can change over time.



Time Eligible For Early Retirement, Time Eligible for Optional Retirement, and Time Eligible for Retirement are three variables that measure the total time spent in a given zone, from the time an individual becomes initially eligible to the selected date. As shown in the table and chart above, individuals passing through zones 5-8 accrue Time Eligible for Early Retirement, while individuals passing through zone 2-4 accrue Time Eligible for Optional Retirement. Time Eligible for Retirement is the sum of the other two categories, or in other words time spent passing through zones 2-8.